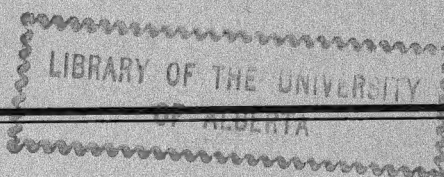


14 SEP 1954



ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1953



PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

Edmonton
Printed by A. Shnitka, Queen's Printer for Alberta
1954

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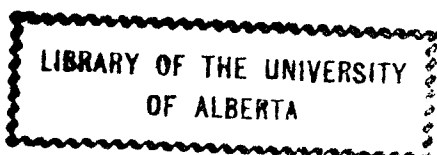


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To His Honour,

J. J. BOWLEN,

Lieutenant-Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1953.

I have the honour to be, Sir,

Your obedient servant,

L. C. HALMRAST,

Minister of Agriculture.

143537

DEPARTMENT OF AGRICULTURE 1953

HON. D. A. URE, Minister of Agriculture

MR. O. S. LONGMAN, Deputy Minister of Agriculture

HEADS OF BRANCHES

A. M. Wilson, Field Crops Commissioner.
W. H. T. Mead, Live Stock Commissioner.
D. H. McCallum, Dairy Commissioner.
F. J. Higginson, Acting Poultry Commissioner.
F. H. Newcombe, Director, Extension Service.
E. E. Ballantyne, V.S., D.V.M., Director, Veterinary Services.
W. G. leMaistre, Provincial Apiarist.
J. Kokolsky, Fur Farm Supervisor.
R. M. Putnam, Superintendent, Schools of Agriculture and Assistant Deputy Minister.
N. N. Bentley, Principal, Vermilion School of Agriculture.
J. E. Birdsall, Principal, Olds School of Agriculture.
J. E. Hawker, Principal, Fairview School of Agriculture.
G. S. Black, Supervisor, Junior Activities.
P. D. Hargrave, Superintendent, Horticultural Station.
E. R. McCrimmon, Supervisor, Radio and Information Branch.

Report of the Deputy Minister

(O. S. Longman)

The Honourable L. C. Halmrast,
Minister of Agriculture.

Sir:

I have the honour to submit herewith for your consideration the forty-seventh Annual Report of the Department of Agriculture for the year ending December 31st, 1953.

Within the report will be found a detailed review of the past year's activities of the ten Branches of the Department, and in addition the report of the Surplus Wheat Board Monies Trust.

During the year the services of the Department have been increased by the inauguration of a radio broadcasting service under the direction of Mr. E. R. McCrimmon. The Radio Branch provides a Monday through Friday service over six Alberta Radio Stations and endeavours to provide news pertaining to the latest practices, scientific discoveries and information affecting agriculture. The reports received by the Department indicate that the public appreciate this additional service.

From an agricultural viewpoint 1953 constituted the third consecutive year in which the crop yields of Alberta and of Canada were above normal. To fully appreciate the significance of the phenomenon, comparisons reveal that in Alberta the 1908-1953, 45 year average yield of the major grain crops, wheat, oats and barley, were 18.2, 34.5 and 25.6 bushels per acre respectively, while the 1951-53 averages were 25.4, 48.0 and 35.7 bushels per acre respectively, or in other words, we have had during each of the past three years, on the average, increased yields of 40% for oats and 32% for barley above the long-term average, an experience unparalleled in the agricultural history of Alberta and Western Canada. The effect of this superabundance of production is that marketing facilities in Alberta and Western Canada for handling grain are congested. Therefore, the marketing of the season's crop has been retarded.

The preliminary cash income of Alberta farmers in 1953 was \$487,893,000 compared with \$506,660,000 in 1952, a reduction of 4%, compared with a national reduction of the same amount.

On the economic front agriculture appears to be confronted with a number of depressing influences, including domestic and world surpluses of grain and other commodities, limiting purchase power of importing countries, increased competition, lowering of price levels of farm commodities, while the costs of labour, services and goods which the farmer has to purchase, have increased or remain stationary.

The development of the aforementioned conditions would lead one to the conclusion that in the immediate future those affected should give careful consideration to the most efficient and effective use of capital and labour, and methods of production, also the

possibility of consolidation and liquidation of existing financial obligations. Furthermore, the full advantage of any protective measures against future financial and production hazards should be taken.

On December 23rd tragedy visited this Department and the Province of Alberta in the sudden and untimely death of the Honourable D. A. Ure, Minister of Agriculture, and Mr. James Mitchell, Live Stock Promoter, who were killed in an automobile accident. To those who were bereaved the Department extends its sincere sympathy.

During the year the following deaths, promotions, retirements and resignations took effect:

Killed in automobile accident, December 23rd:

Hon. D. A. Ure, Minister of Agriculture
Mr. James Mitchell, Live Stock Promoter

Promotions:

Mr. E. R. McCrimmon appointed Supervisor of the Radio and Information Branch

Retirements:

Mr. H. S. McIntyre, Recorder of Brands
Mr. I. Stewart-Irvine, Dairy Inspector

Resignations:

Mr. C. G. Anderson, District Agriculturist, Calgary
Mrs. B. S. Eggertson, District Home Economist, Westlock
Mr. C. R. Franklin, Stock Inspector, St. Boniface, Man.
Mrs. G. C. Melnyk, District Home Economist, Vegreville
Miss K. B. O'Callaghan, Instructress, School of Agriculture, Olds
Mr. F. L. Paquin, District Agriculturist, Falher
Mr. J. S. Robblee, District Agriculturist, Wainwright
Mr. D. A. Russell, Instructor, School of Agriculture, Fairview
Miss Ruth Whaley, District Home Economist, Edmonton

At this time I wish to express my sincere appreciation for the service and loyalty of the staff in the implementation of the programs and policies of the Department during the year. Particularly do we appreciate the assistance rendered during the year by officials of the Federal Department of Agriculture, the Faculty of Agriculture of the University, Municipal Councils, Service Boards, Chambers of Commerce, Advisory Committees and all others who have given freely of their time and service.

Respectfully submitted,

O. S. LONGMAN,
Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Field Crops Commissioner

R. L. Pharis, Supervisor, Crop Improvement

P. D. McCalla, Supervisor, Horticulture

G. R. Sterling, Supervisor, Soil Conservation and Weed Control

W. Lobay, Supervisor, Crop Protection

GENERAL

The out turn of grain crops again significantly exceeded long-term average yields. The mild open winter of 1952-53 with very little snow until February and March and the dry harvest season of 1952 indicated a turn towards drier years. Fortunately and somewhat unexpectedly heavy spring rains in the South and more than average rain-fall in Central and Northern Alberta brought on a heavy crop, which was harvested under almost ideal weather conditions.

Due to late Spring snow storms and early Spring rains very little crop was planted anywhere in the Province until the first week in May. Many farmers in south-western Alberta reported seeding just underway as late as May 19th. Similar delays were very common in the south-east.

Only slight changes occurred in crop acreages. Wheat and oats declined 64 thousand and 230 thousand acres respectively, while the barley acreage increased by 153 thousand acres. More land was summerfallowed because rains prevented normal spring seeding.

The cool growing season was characterized by severe storms of hail and torrential downpours of rain. In July hail cut wide swaths through Central and South-Central Alberta, which not only completely hailed out the crops but did considerable damage to buildings and livestock. Hail losses were as great as ever recorded. In spite of local misfortunes the crop can be recorded among the good years of the Province. The high yields of three successive years created storage and marketing problems. The initial delivery quota was 3 bushels per cultivated acre consequently farmers had to provide farm storage for a very large part of their crop. The following table indicates average yields of wheat, oats and barley for the last three years in comparison with the long-term average.

	Yields (bushels per acre)			Long-term average
	1951	1952	1953	
Wheat	23.6	26.9	25.7	18.2
Oats	46.6	49.9	47.5	34.5
Barley	34.9	35.4	31.0	25.6

Summer pastures and hay and feed crops were exceedingly good and because of the open fall with little snow stock ranged on crop land until late December. Winter feed was in abundance in most parts of the Province.

The production of legume seeds declined about one-third from the 1952 level. This decrease was due to the excellent growing season which promoted heavy yields of hay with little seed. Grass

seed production, particularly brome and Creeping Red Fescue was very good. The Fescue crops of the Peace River Block were highest on record and produced an estimated yield of 7 million pounds. The double-cut clover, Lasalle, planted in 1952 on a limited acreage and under contract showed little winter killing and produced high yields in the Hays and Brooks districts. At more northerly points conditions which produced excellent top growth resulted in disappointing seed yields.

Vegetable crops for processing were grown by approximately 500 farmers on 11 thousand irrigated acres in southern Alberta. Peas for canning or freezing occupied over half this acreage, with corn in second place. About 1,000 acres was devoted to beans (wax and green), red table beets, carrots and pumpkin for canning, and cucumbers for pickling.

Acreage of these crops was concentrated near the three Canning Company plants at Lethbridge (Broders), Taber (Cornwall), and Brooks (Alberta Canning). A small acreage was grown locally for the Alberta Canning Factory at Magrath but most of the crop processed there was drawn from the Raymond-Lethbridge area. Cucumber growing for Dyson's Salting Station was concentrated in the Taber-Barnwell area.

Major acreage loss was in peas from a hail-storm through the Brooks district. Unfavorable wet and cold conditions early in the season caused some loss in corn, beans and peas. However, excellent growing and harvesting conditions ensued; and high yields of top quality were processed. About half the total pack of peas and beans was frozen by the Broder factory. This plant also froze some corn-on-the-cob and as kernels. Some corn-on-the-cob was canned by both Broder and Cornwall factories.

Acreages, yield and average prices for the various crops are set out below:

Crop	Processed Acreage	Yield Per Acre	Ave. Price Per Ton
Peas	4,500	1.3 tons	\$60.00
Corn	3,000	4.2 tons	\$20.00
Beans (snap)	460	2.7 tons	\$80.00
Beets (table)	60	7.0 tons	\$28.00
Carrots	60	8.0 tons	\$30.00
Pumpkins	125	11.0 tons	\$ 7.50
Cucumbers	8,525	6.0 tons	\$40.00

Corn and pumpkin were the only crop not subject to a sliding scale of prices based on grading for size or quality or both. The "average price per ton" quoted above is therefore, for all crops except corn and pumpkin, a weighted estimate only. "Acreage processed" and "yield per acre" were arrived at after consulting officials of the three major processing companies.

In the Taber-Barnwell area and the Magrath-Raymond area growers' associations have been formed with a membership of about 60 percent of those concerned in growing "can-crops". In matters relating to contracts, grades and prices they have met with favorable co-operation from the Alberta and Cornwall Canning Companies.

CROP IMPROVEMENT SERVICE

Crop Improvement Demonstration Policy

Five crop improvement projects made up the policy, which is designed to aid District Agriculturists in demonstrating the value of better crops and better farm practices.

Project A: Forage Seed Production

This project was used to introduce forage seed production in areas where this type of enterprise might become important. A total of 50 applications was received from 16 District Agriculturists.

2,338 pounds of seed and 350 lbs. of fertilizer 21-0-0 were used in this project.

Project B: Pasture Improvement

This project was continued to increase farmer interest in the need for better pastures. Follow-up reports on Project Pasture planted in 1950 and 1951 indicated a fair amount of success.

Two hundred and thirteen applications were received from farmers in 27 District Agriculturists' territories.

The following quantities of seed were used in filling these orders. A variety of forage seeds totalling 21,408 pounds was used in this project.

In addition, fertilizer was supplied to 16 applicants who had established pasture under the project in previous years. The following quantities were used:

Ammonium Phosphate (11-48)	200 lbs.
Ammonium Phosphate (16-20)	2,400 lbs.
Ammonium Sulphate	2,550 lbs.

Project C: Balanced Farming

This project was set up to encourage farmers to adopt suitable crop rotations. Assistance by providing forage seed was given in the second year of the rotation, at a discount of 25% for 1/6 of the acreage up to a maximum of .25 acres. There were 5 applications from 2 District Agriculturists' areas; 1,151 pounds of forage seed being distributed.

Project D: Field Demonstrations—Crops and Fertilizers

This project was designed to demonstrate the value of different kinds and varieties of field crops, and, where advisable, the value of fertilizer on these crops. Seed and fertilizers were supplied direct to District Agriculturists without cost, quantities supplied being limited to each District Agriculturist. Fifteen District Agriculturists used the project.

The following quantities of seed and fertilizer were distributed:

Total forage seed	3,574 lbs.	
Ammonium Phosphate (11-48)		2,700 lbs.
Ammonium Phosphate (16-20)		1,450 lbs.
Ammonium Sulphate		1,200 lbs.
		5,350 lbs.

Project E: Crop Variety Demonstration Plots

This project was used by District Agriculturists to demonstrate the varietal differences in the cereals and the growth habits of forage crops. Seed and fertilizer for row demonstrations were provided to 20 District Agriculturists. Sets of selected forage seed packets were supplied to 6 District Agriculturists, to be distributed to members of their 4-H Forage Clubs.

Forage Crop Seed Production

The production of alsike and red clover seed in 1953 was satisfactory, but alfalfa seed set was highly variable, and yields were considerably lower than last year. Some seed losses of legume crops occurred when early cut swaths were exposed to wet weather in August and early September. However, with the open fall, the major part of the harvest was completed. The following figures give the estimated seed production for the most important forage crops in the years 1949 to 1953 inclusive:

	Thousand Pounds				
	1949	1950	1951	1952	1953
Alfalfa	3,000	9,000	1,900	6,900	4,000
Sweet Clover	8,193	12,000	3,200	7,500	4,000
Red Clover	1,183	900	600	1,900	1,750
Alsike	2,607	1,700	1,100	7,500	5,000
Timothy	66	No figure available	154	359	200
Crested Wheat	94	200	220	300	150
Brome	2,200	6,000	4,500	7,000	10,000
Creeping Red Fescue	846	400	1,350	2,425	8,100

Estimates show a substantial increase in brome seed production, and seed buyers this year were accepting only certified stocks. Price for this year's fescue crop compared favorably with last year's prices of 28 cents to 32 cents per pound—about the same as in 1952. Other seed crops suffered a severe decline in price, and this, plus the inability of farmers to move seed stock, will probably cause a reduction in forage seed acreage next year.

Alberta Crop Improvement Association

This Association is primarily concerned with improvement in quality of commercial grains by the wider use of registered and certified cereal seed. As in preceding years, participating elevator companies and the Alberta Seed Growers' Co-op. handled the distribution.

Bushels of registered and certified seed, marketed in this manner in 1953, as compared with prior years, were as follows:

	1949	1950	1951	1952	1953
Wheat	32,951	38,623	24,445	39,007	31,334
Oats	34,398	47,227	46,216	47,123	19,309
Barley	14,860	14,082	18,464	14,886	13,704
Flax	329	820	2,411	4,130	1,247

In 1953, the average order was 18½ bushels, so that while volume handled was not great, a large number of farmers benefitted through the use of some registered seed.

The Association was directed by a committee of representatives from the following organizations: North-West Line Elevators Association; the farmer-owned elevator companies, Plant Products Division, Canada Department of Agriculture; the Alberta Seed Growers' Co-operative; the Canadian Seed Growers' Association, Alberta Branch; the University of Alberta, and the Alberta Department of Agriculture.

Production of Registered Seed

In the following table, a summary is given of estimated yields of cereals and flax, inspected for registration and certification:

	Estimated Yield (Thousand Bushels)				
	1949	1950	1951	1952	1953
Wheat	1,416	375	1,000	1,270	1,204
Oats	1,013	414	1,775	1,200	1,017
Barley	283	153	620	570	362
Flax	13	14	113	115	73

These figures indicate that production of registered and certified seed was far above the distribution of sacked and sealed seed. Some of this seed was sold in bulk in farm to farm transactions. No doubt a large quantity was marketed commercially or fed on the farm.

The table below is a summary of acreage of grasses and legume crops inspected for registration and certification over a four year period:

	Registered Acres				Certified Acres			
	1950	1951	1952	1953	1950	1951	1952	1953
Alfalfa	9,351	7,256	6,209	2,419	651	659	718	366
Brome	294	89	20	4	15,976	21,775	23,242	27,700
Creeping Red Fescue	79	53	484	190	3,136	6,477	9,127	16,139
Crested Wheat	76	36	23	23	158	278	155	410
Red Clover	356	215	122	2,755	57	157	245	83
Sweet Clover	12	392		2	720	954	951	392

The Alberta Varietal Zonation Committee

This is an advisory committee to the Provincial Seed Board. Its purpose is to co-ordinate the findings of the various experimental agencies in the province with respect to grain varieties, and to recommend those best suited to the various soil climatic zones. The committee is composed of representatives from the following: Departments of Plant Science and Soils, University of Alberta; Canada Experimental Farms, Science and Production Services, and the Provincial Field Crops Branch. The annual meeting of the Committee was held in December, with the following varieties being recommended:

Zones	Spring Wheat	Winter Wheat	Barley	Oats	Flax
1	*Chinook *Rescue Thatcher	Yogo	Compana Vantage	Eagle Exeter	Royal
2A	*Chinook *Rescue Thatcher	Kharkov M.C. 22 Yogo	Compana Vantage	Eagle Exeter	Redwood Royal
2B	*Chinook *Rescue Thatcher		Vantage Velvon 11	Eagle Victory	Redwood Rocket
2C	*Chinook *Rescue Thatcher	Kharkov M. C. 22	Compana **Olli Vantage	Eagle **Larain	Redwing Redwood Rocket
2D	Thatcher		**Olli Vantage	Eagle Victory	Redwing Redwood Rocket
Irrigated Areas	Thatcher		Harlan Titan	Eagle	Redwood
3A	Saunders Thatcher	Kharkov M. C. 22	Newal Olli Vantage	Eagle **Larain	Redwing Redwood Rocket
3B	Saunders Thatcher		Newal Olli Vantage	Eagle **Larain	Redwing Redwood Rocket
3C	Saunders Thatcher		Newal Olli Vantage	Beaver Victory	Redwing Rocket
4A	Saunders Thatcher		Newal Olli Vantage	Eagle Beaver	Redwing Rocket
4B	Saunders Thatcher		Newal Olli Vantage	Beaver Victory	Redwing Rocket
4C	Saunders Thatcher		Newal Olli	Beaver Victory	Redwing Rocket

*Sawfly resistant.

**For wild oat control and where early maturity is essential.

The recommendations of the Committee were prepared for printing in leaflet form, and distributed by the Field Crops Branch throughout the Province.

Forage Crops Advisory Committee

This is an Advisory Committee to the Provincial Seed Board. The Committee serves to co-ordinate results of forage crops research and experimental work in the province. Membership of the committee consists of representatives from the Departments of Plant Science and Soils, University of Alberta; Science Service, Edmonton; each of the Canada Experimental Farms in the province; the Canada Plant Products Division; the Field Crops Branch, Alberta Department of Agriculture; the Alberta Seed Growers' Co-operative, and the Seed Trade.

Partly through the efforts of this committee, a Western Canadian Forage Committee has been set up that will include members of the Experimental Farms, Universities, and Provincial Governments. Meetings of this organization will be held every two years, the 1955 meeting to be held at Lacombe. Although the Provincial Committee has been established only three years, greater co-operation between the various agencies has been realized, resulting in more satisfactory forage crop recommendations being made to farmers.

Agricultural Relief Advances Act

Under this Act, the following quantities of seed grain were supplied to necessitous settlers in the Wanham area:

Wheat	180 bus.
Oats	159 bus.
Barley	101 bus.
Flax	91 2/3 bus.

International Seed Shows

Since the value of international shows as show windows for farm products is recognized, the Department has for many years given assistance to exhibitors in the seed classes at the Royal Agricultural Winter Fair, Toronto, and the International Grain and Hay Show, Chicago. Exhibits were assembled and shipped to the shows by the Field Crops Branch, with shipping costs both ways being paid by the Branch. The exhibits were supervised at the shows and in 1953, special premiums were paid as follows: (All prize monies won at the International were duplicated and they were increased by 50% at the Royal. A special honorarium of \$25.00 for each first prize won at the Royal in the classes for hard red spring wheat; early and late white oats; six-rowed barley; two-rowed barley; rye; flax; alfalfa; alsike; red clover; sweet clover; brome; red fescue; and russet (Netted Gem) seed potatoes was paid. A similar honorarium was paid for each first prize at the International, in the classes for red clover; sweet clover; alsike clover; alfalfa; timothy; crested wheat; brome; creeping red fescue; hard red spring wheat; white oats; six-rowed barley; two-rowed barley; rye and flax. Such honoraria were increased to \$100.00 for championships won with hard red spring wheat; white oats and six-rowed barley at both shows and for the championship in rye at Toronto.

Winners of first prizes and championships were as follows:

Royal Agricultural Winter Fair

Championships:

Wheat	Ronald Leonhardt, Drumheller	Marquis
Oats	Thos. F. Rhatigan, South Edmonton	Victory
Barley	Geo. S. Snow, Milk River	Compagna
Rye	Chris Morck, Dickson	Pitcus
Small Seeded Legumes	Tom Corlett, Clairmont	Alsike

First Prizes:

Crested Wheat Grass	Andrew Giffen and Son, Okotoks.
Brome Grass	R. Goodall, Coronation.

In addition, 5 seconds and 52 other awards were won by Alberta exhibitors.

International Grain and Hay Show:

Championships:

Wheat	Fred W. Hallworth, Taber	Reward
Oats	John T. Eliuk, Hairy Hill	Victory
Barley	Geo. S. Snow, Milk River	Compagna

First Prizes:

Alsike Clover	T. Corlett, Clairmont.
Creeping Red Fescue	A. Giffen and Son, Okotoks.
Rye	Chris Morck, Dickson.

In addition, 5 seconds and 23 other awards were won by Alberta exhibitors.

A list of top award winners at International Seed Shows, held from 1949 to 1953, is given below:

Royal Agricultural Winter Fair—1949

Grand Champion	Oats	J. T. Eliuk, Hairy Hill
Grand Champion	Barley	J. T. Eliuk
Reserve Grand Champion	Wheat	R. Sharpe, Drumheller
Reserve Champion	Oats	Gordon S. Moyer, Elmworth
Reserve Champion	Rye	T. E. Brown, Cassils
Reserve Champion	Small Seeded Legumes	N. J. Enns, Gem
First Prize	White Spring Wheat	T. G. Wall, Coaldale
First Prize	Alsike Clover	T. Corlett, Clairmont
First Prize	White Field Beans	T. E. Brown, Cassils
First Prize	Sweet Clover	S. Harker, Glenwood
First Prize	Oats, White Early (Jr. Section)	Henry Unruh, Vauxhall
First Prize	Oats, White Medium or Late (Jr. Section)	Norman Boulton, Abee
First Prize	Barley, 6-Rowed (Jr. Section)	V. Lewis, Bon Accord

International Grain and Hay Show—1949

Championship	Oats	S. H. Pawlowski, Spedden
Reserve Champion	Alfalfa	E. Laganieri, Rosemary
First Prize	Alsike	T. Corlett, Clairmont
First Prize	Trebi Barley	T. E. Brown, Cassils
First Prize	Sweet Clover	Mrs. Emma Inda, Brooks
First Prize	Brome	H. M. Bailey, Fairview

Royal Agricultural Winter Fair—1950

Championship	Wheat, Red Spring	Rickey Sharpe, Munson
Championship	Oats, Medium and Late	J. T. Eliuk and Son, Hairy Hill
Championship	Rye	Chris Morck, Dickson
Championship	Clover(Red)	McCabe Grain Co. Farm, Brooks
Reserve Champion	Barley	Thos. E. Brown, Cassils
Reserve Champion	Oats	Matt B. Schnurer, Sangudo
Reserve Champion	Wheat	Howard Roppel, Rockyford
First Prize	Wheat, Red Spring	Alfred Walner, Coaldale
First Prize	Wheat, White Spring	Thos. E. Brown, Cassils
First Prize	Oats, White Early	Ronald Robinson, Ponoka
First Prize	Oats, White Medium	Henry Unruh, Vauxhall
First Prize	Barley, 6-rowed	J. T. Eliuk and Son, Hairy Hill
First Prize	Alfalfa	Thos. E. Brown, Cassils
First Prize	Sweet Clover	H. H. Jansen, Rosemary
First Prize	Alsike Clover	Tom Corlett, Clairmont
First Prize	Potatoes, Netted Gem	Tony Ohama, Rainier
First Prize	Field Beans, Small	Thos. E. Brown, Cassils
First Prize	Field Beans, Large	Thos. E. Brown, Cassils

International Grain and Hay Show—1950

Championship	Barley, 6-rowed	J. T. Eliuk and Son, Hairy Hill
Championship	Rye	Chris Morck, Dickson
First Prize	Red Clover	McCabe Grain Co. Farm, Brooks
First Prize	Alsike Clover	Tom Corlett, Clairmont
First Prize	Sweet Clover	Stanley Walker, Boyle

Royal Agricultural Winter Fair—1951

Championship	Wheat	Howard Roppel, Rockyford
Championship	Oats	Matt B. Schnurer, Sangudo
Championship	Barley	Thos. E. Brown, Cassils
Reserve Champion	Wheat	S. J. Allsop, Red Deer
Reserve Champion	Oats	Gordon S. Moyer, Elsworth
Reserve Champion	Barley	Harry V. Holt, Peace River
Reserve Champion	Rye	Chris Morck, Dickson
Reserve Champion	Grass (Brome)	R. Goodall, Coronation
First Prize	Alsike Clover	E. W. Cox, Grande Prairie
First Prize	Sweet Clover	E. A. Levens, Spirit River
First Prize	Oats, Early Maturing	Stainor Valli, Sylvan Lake
First Prize	Oats, White Early (Jr. Class)	Gunder Sveinunggaard, Belloy
First Prize	Oats, Medium to Late (Jr. Class)	Henry D. Unruh, Vauxhall

International Grain and Hay Show—1951

Championship	Oats	Gordon S. Moyer, Elsworth
Championship	Barley	Harry V. Holt, Peace River
First Prize	Wheat, Hard Red Spring	S. J. Allsop, Red Deer
First Prize	Alsike Clover	E. W. Cox, Grande Prairie
First Prize	Sweet Clover	E. A. Levens, Spirit River

Royal Agricultural Winter Fair—1952

Championship	Wheat	Ronald Leonhardt, Drumheller
Championship	Oats	Matt B. Schnurer, Sangudo
Championship	Beans	Peter H. Friesen, Coaldale
Championship	Small Seeded Legumes	G. S. Moyer, Sr., Elsworth
Reserve Champion	Wheat	R. R. Sharpe, Munson
Reserve Champion	Rye	T. Brown and Sons, Cassils
Reserve Champion	Flax	Gus. Regehr and Robt V. Hall, Brooks
First Prize	Potatoes, Netteed or Russet	Tom H. Ohama, Rainier
First Prize	Oats, White Early	Helen Sveinunggaard, Belloy
First Prize	Oats, Medium Early	Roy Warren, Hylo
First Prize	Barley, 6-rowed	Norman Bieber, Rimbey
First Prize	Hard Red Spring Wheat	Ted M. Allen, Jr., Taber
First Prize	White Spring Wheat	T. Brown and Sons, Cassils
First Prize	Beans, Canning	T. Brown and Sons, Cassils
First Prize	Sweet Clover	F. H. White, Spirit River
First Prize	Brome Grass	R. Goodall, Coronation

International Grain and Hay Show—1952

Championship	Barley	Geo. S. Snow, Milk River
Championship	Oats	Matt B. Schnurer, Sangudo
First Prize	Soft White Spring Wheat	Jas. Allen, Grantham
First Prize	Alsike Clover	T. Corlett, Clairmont
First Prize	Sweet Clover	F. H. White, Spirit River
First Prize	Barley, 6-rowed	T. Brown, Cassils
First Prize	Rye	Jas. Allen, Grantham

Names of winners prior to 1949 can be found in Annual Reports of the Field Crops Branch for 1942 and 1948.

Seed Drill Surveys

Seed drill surveys were conducted in several Municipal Districts in 1949 to 1953, to determine the purity and quality of seed being sown. Seed samples were taken by Field Supervisors, Weed Inspectors and District Agriculturists, direct from farmers' seed drills at seeding time. The following is a summary of seed grades obtained on the samples taken:

Year	No. of Districts	No. of Samples	No. 1 Seed	No. 2 Seed	No. 3 Seed	Rejected
*1928	Province Wide	1,225	13.3%	15.4%	22.3%	49 %
1949	23	1,939	21.5%	10 %	17.5%	51 %
1950	12	835	32 %	9 %	19 %	40 %
1951	9	630	26 %	17 %	17.5%	39.5%
1952	10	702	28.3%	15.4%	15.1%	41.2%
1953	15	1,199	33.0%	12.0%	17.5%	37.5%

*Carried out by Seeds Branch, Dominion Department of Agriculture.

Comparison of Seed Grades Obtained From Different Cleaning Methods

Method	No. 1	No. 2	No. 3	Rejected
Elevator	24	7	24	45
Farm	29	12	18	41
Other Plants	33	9	15	43
*Portables	60	20	5	15
Municipal Plants	70	17	7	6

* 20 wheat samples—all from the County of Vulcan.

Comparison of Seed Treatments for 5-Year Period

Year	No. of Samples Reported	Percentage Treatment			
		Formalin	Mercurials	Non-Mercurials	None
1949	926	44.6	44.5		10.9
1950	570	35.0	44.2	5.6	15.2
1951	601	36.6	45.8	2.0	15.6
1952	151	33.3	46.7	1.3	18.7
1953	862	21.7	57.9	8.1	11.1

The seed drill survey results indicate a lack of realization on the part of farmers regarding the importance of good seed. However, there are indications that, in recent years, there has been some improvement.

Canadian Forage Project

This project is sponsored by the Canada Department of Agriculture in co-operation with Provincial Departments. Recognizing the lag between the production of new forage varieties, and their acceptance by and availability to farmers, this project was designed to make larger quantities of pedigreed seed available. Alberta growers have co-operated in the program with the production of Lasalle clover seed under contract. Approximately 800 pounds of foundation and registered approved seed were allocated to 20 Alberta growers in 1952. These growers harvested approximately 25,000 pounds of cleaned seed in the fall of 1953, all of potentially registered approved or registered status. In 1953, 195 pounds of foundation and 160 pounds of registered approved seed of Lasalle clover were allocated to 17 growers in the Brooks and Hays Irrigation Areas.

Seed Control Areas Act

A Seed Control Area was established under the Act at Hays in 1953. The local seed areas committee limits the kinds and varieties of forage seed crops that can be grown and requires that the grades of seed for pasture, hay mixtures, and cereals, are of satisfactory quality. The regulations are designed to ensure that only a high standard of seed of any crop is planted in this area. Seed fields of Ladak alfalfa and Lasalle clover have been established in this area. The seed used was all of foundation, registered approved, or registered level. The area shows promise for the production of seed of the highest quality.

Foundation Stock Seed Allocation Committee

This Committee attempts to allocate the limited stocks of foundation seed to seed growers who will take the greatest advantage of it, and who are prepared to undertake production of elite seed. In this manner, registered stocks of the common varieties are maintained at high levels.

Other Activities

Members of the Alberta Branch, Canadian Seed Growers' Association expressed the desire that the Seed Grower's News Letter be continued. Three such letters, containing notes of interest to seed growers, were sent out. A leaflet, entitled "Profitable Pastures for Alberta", was printed by the Field Crops Branch and distributed to all milk shippers by the Dairy Branch. A chart, comparing the characteristics and usefulness of the common grasses and legumes, was prepared and distributed to District Agriculturists and Field Supervisors. Following the meeting of the

Cereal Zonation Committee, a report was made to District Agriculturists and Field Supervisors on new cereal varieties and committee recommendations. Talks were given at 35 farmers' meetings, attendance being approximately 1,900. Five radio talks were given, and 19 articles prepared for Farm Notes. Grain judging was done at a number of Junior Club Achievement Days, local Senior Seed Fairs, and at the Lacombe and Calgary Seed Fairs. Numerous letters, enquiring as to the availability and adaptability of crop varieties, and problems relating to crop production, were answered.

SOIL CONSERVATION AND WEED CONTROL

Weeds

Weed and crop growth were abundant in all parts of Alberta. Crops generally competed well with weed growth and in most areas yields were above average.

Chemical Weed Control

The use of selective herbicides such as 2,4-D and MCP increased in 1953 despite the fact that many farmers could not spray their wet fields. The greatest increase in the use of these chemicals occurred from Wetaskiwin north and particularly in the north-eastern part of the province. Acres treated for 1951, 1952 and 1953 are 2,317,000; 3,259,000 and 3,420,000 respectively. Of the total acreage treated, 93% was sprayed and 7% dusted. About 5% of the acreage sprayed was by aircraft. A small amount of MCP was used during 1953.

The Branch continued to distribute sodium chlorate and polybor chlorate to Municipalities at cost. Most of the soil sterilants were used on toad flax control with some being used on small patches of other weeds. The total distribution of soil sterilants increased again in 1953.

Amounts of Soil Sterilants Distributed for Last 5 Years

	1949	1950	1951	1952	1953
Sodium Chlorate	180,500	207,940	290,000	330,626	333,088
Polybor Chlorate				25,784	36,600
Total	180,500	207,940	290,000	356,410	369,688

An additional 60,000 pounds of chlorates were purchased directly by Municipalities. Thus the total amount used was 429,688 lbs.

Weed Control Demonstrations

The Branch assisted 21 Service Boards to establish weed control demonstrations, as follows:

- (1) The five-year program for the control of Tartary Buckwheat established at Royal Park and Stony Plain in 1951 was continued. A marked reduction in stands of Tartary Buckwheat was noted at both places.
- (2) Hawksbeard growing in a crop of alsike clover was treated with various rates of MCP and 2,4-D.
- (3) Hemp Nettle growing in cereal grains was treated with MCP at each of three locations. Results were promising.
- (4) The effectiveness of the soil sterilants, polybor chlorate, sodium chlorate and CMU were compared on Toad Flax.

Weed Survey

The Branch made a survey of Toad Flax, Leafy Spurge, Hoary Cress, Field Bindweed and Russian Knapweed during the year. Toad Flax was by far the most wide spread. It was located on 5,849 quarters of land. Hoary Cress and Leafy Spurge have shown a decrease in the total number of patches whereas Toad Flax has increased considerably since 1949. Field Bindweed and Russian Knapweed have increased slightly.

Halogeton (*Halogeton glomeratus*)

This weed has not, as yet, been found in Alberta. Mounted dried specimens were obtained from the ranching areas of the Western States and sent to those District Agriculturists where this weed might establish itself. A descriptive circular was also distributed.

Roadside Seeding

The Field Crops Branch and the Department of Highways co-operated to seed 703 miles of Government highways during 1953. A total of 42,197 pounds of seed was used for this project.

Municipalities were encouraged to seed newly built road ditches. The Branch supplied a total of 22,800 pounds of seed for this purpose.

Crown Lands

Forage seed was supplied to seed weed infested Crown lands to grasses provided a farmer leased the affected area. A total of 360 pounds of seed was used on Crown lands. The Branch also supplied 2, 4-D for weed control on Crown lands provided interested nearby farmers were prepared to apply the chemical.

Agricultural Service Boards

Improvement District No. 132 formed an Agricultural Service Board in April, 1953. The County of Ponoka formed one on May 15th, 1953. The Municipal District of Lac Ste. Anne did not re-organize its Service Board. Thirty-five Boards operated during 1953 making one more than in 1952. Seven other Boards started the year with different Supervisors. All Boards had Supervisors during the summer months and each Board had a Supervisor at the close of 1953. Thirteen of the Boards hired a total of 48 extra men as Weed Inspectors or assistants to the Supervisor, the remaining 22 Boards carried on with one man.

Service Boards placed 15 quarters under supervision and 9 under reclamation according to the Service Board Act. Five quarters were released from supervision and none from reclamation. Supervisors and assistants issued 1,272 notices to destroy weeds and placed 12,418 acres under prohibit seeding notices.

Service Board Agreements

The general agreement between each Board and the Department provides for assistance up to \$1,800.00. This was an increase of \$400.00 from 1952 contracts due to an increased allowance for Supervisor's Salary. In addition the following Municipalities had special agreements:

Vermilion River No. 71—For the control of toad flax with sodium chlorate within a special area. Costs

shared—one-third Province, one-third Municipality and one-third farmer.

Minburn No. 72—Toad flax control with sodium chlorate and/or cultivation. Costs on one-third basis; same as Vermilion.

Athabasca No. 103—For additional Pest Control Officers to set out baits on Crown lands.

Cochrane No. 6—For the control of Hoary Cress and Leafy Spurge with grass seed and 2,4-D.

Peace No. 135—For Toad Flax control with sodium chlorate on one-third cost basis.

Kneehill No. 48—For Toad Flax control on Municipal roadsides. Cost 50-50 between Department and Municipality.

A survey of the results of the program in Vermilion during 1952 indicated good progress in the Control of Toad Flax.

Field Staff

The twenty-two Municipalities which do not have Service Boards employed a total of 40 Weed Inspectors. The Branch employed 17 Weed Inspectors to work on weed control in Improvement Districts and 4 Weed Supervisors who assisted Weed Inspectors both in Municipalities and Improvement Districts with difficult problems. The total force working in the province was 144 men.

Meetings, Field Days, Extension, etc.

The Branch sponsored and organized the Western Canadian Weed Control Conference, which was held at the Macdonald Hotel, Edmonton, on November 26th and 27th. About 200 delegates attended. The Branch brought in two members from each Service Board besides the District Agriculturists to attend this Conference.

The Supervisor spoke on soil conservation or weed control at 38 Short Courses or meetings arranged by District Agriculturists and at 10 other meetings. He attended 22 field days and 15 Service Board meetings.

He gave 8 radio talks on various subjects and prepared 12 articles for Agricultural Notes.

Bulletins on Green Foxtail and Tartary Buckwheat were written and distributed.

Soil Conservation

There was little runoff in the spring of 1953. The snow melted gradually allowing most of the water to be absorbed. Spring water erosion was relatively light. Some soil drifting occurred during the early spring particularly in the Edmonton area and areas north-east of the city. Many areas experienced heavy rain and hail storms during the summer months. These storms caused considerable erosion on land that was being summer-fallowed. Twenty-three of the 35 Municipalities with Service Boards reported some water erosion. The Supervisor from the Municipal District of Red Deer reported some water erosion on 10% of the land in that municipality.

The heavy crop of 1952 left a lot of trash on the soil. Most of this trash was retained with very little being burned. Several Municipalities have by-laws prohibiting the burning of stubble

except by by-law. All of the areas conducted trash cover campaigns again during 1953.

Two more farms were laid out on the contour in the Claresholm area and more land was contoured on a farm which was started in 1952 in the Calgary area. This work may be enlarged. Farms contoured in 1951 and 1952 reported farming operation improved.

Projects 1 and 2 of Soil Conservation and Weed Control with Forage Crops were continued in 1953.

Under Project 1 the cost of forage seed, cereals and fertilizer was shared equally with the farmer applicants who were prepared to establish a soil conservation demonstration. Forty-four farmers used 5,241 pounds of seed to establish such demonstrations.

The following seed was distributed for this purpose:—

Alfalfa	975 lbs.	Creeping Red Fescue	410 lbs.
Brome	1,475 lbs.	Crested Wheat	462 lbs.
Sweet Clover	565 lbs.	Barley	672 bus.
	Other forage seeds	684 lbs.	

Project 2 was designed to assist Municipalities to handle farms placed under supervision or reclamation by authority of the Service Board Act. The Branch shared equally with the applicant the cost of forage seed for thirty acres. Four farmers took advantage of this policy using 270 lbs. of alfalfa; 380 lbs. brome and 130 lbs. creeping red fescue.

District Agriculturists had a total of 204 soil conservation demonstrations in which 4,693 people participated. In addition there were 165 meetings on conservation, attended by 5,677 people.

Fertilizers

The fifteen trials using various nitrogen fertilizers put on trash cover in the fall of 1952 were harvested and yields reported at the Advisory Fertilizer Committee meeting. Six more trials were placed in the fall of 1953. The Branch placed fertilizer trials in the Peace River Block in the spring of 1953. Same were harvested and yields recorded. Three trials—spraying with liquid fertilizers were placed in the Edmonton area. One was hailed out and the other two did not show yield increases. Fifteen thousand fertilizer bulletins were distributed in 1953.

Save the Soil Campaigns

The Branch assisted 17 District Agriculturists with 22 "Save the Soil" or "Farm and Home" competitions. A total of 550 farmers entered such competitions. The Branch issued 28 "Save the Soil" certificates to those farmers who scored 80% or more.

Seed Cleaning Plants

At the end of 1952 there were seven Co-op., or Municipal, Seed Cleaning Plants in operation at the following points, Camrose, Westlock, Wetaskiwin, Morinville, Marwayne, Vegreville and Mundare.

During the 1952-53 season these Plants cleaned approximately 900,000 bushels of seed. This is below the capacity of the Plants, due largely to the fact that the low quota on market grain prevented many farmers from emptying their bins, so the seed grain could be stored.

The following construction was carried out during 1953. The Rosebud Plant was completed and went into operation about

February 1st. Strome Plant was built and was officially opened on November 23rd. Construction of the Vermilion Plant was started, but it will not be in operation until late January of 1954. A plant at Willingdon was practically completed, but will not be completed until the spring of 1954. This district is making use of an older, smaller plant until the new one is completed.

With the number of Plants now operating, it is expected that they will handle up to a million and a half bushels this season. If the seed grain could be moved freely, and farmers would bring their seed in so that the Plants could operate on a two shift basis from November 1st until the end of the seeding, they could easily clean an average of 225-250,000 bushels per Plant.

As well as cleaning cereal grains, three of the Plants have rough cleaned a total of 700,000 pounds of clover seed. This is done during the fall months, at a time when cereal grains are not coming in. This has been profitable to both the Plants and the Farmers, as much of this seed was purchased by outside buyers at a premium over local prices, on a "no dockage" basis.

During June and July, when no seed grain was coming in most of the Plants cleaned market grain. This was also profitable for both farmer and Plant, as in most cases the grain was raised a grade, sufficient difference to more than pay for the cleaning, and the farmer had his screenings for feed on the farm.

All Municipal Plants are equipped with machines which treat for seed-borne diseases, or for wire-worm control. Treatment for wire-worm control started in the 1951-1952 season. Since that time there has been an increasing demand for this treatment, as farmers have recognized the value of it.

The cost of constructing and equipping Plants previous to 1953 was kept below \$40,000. Increased costs of material, labor, and machines this year, has increased these costs by at least \$2,500.

As the 1952 crop provided enough seed to supply local demand in most districts, the Plants did not handle as much seed for distribution in districts other than their own as the previous season. They did about the normal amount of seed distribution among farmers in their respective areas.

All Plants operating for the full season met all operating and over-head expenses, with a surplus to help build up an emergency fund. In several cases, interest was paid on share capital, and a patronage dividend was paid to shareholders.

At the end of 1953, active organization work was under way for the establishment of Plants in four other areas, with good prospects of construction during 1954.

As well as the Municipal Plants, there are about 60 privately-owned portable plants, and about 50 privately-owned stationary plants, operating in the Province. These are under Permit from the Field Crops Branch, and are subject to inspection by the Service Board Supervisor, or the Field Crops Branch Engineer.

Quite a number of these Plants are doing a good job, and are capable, with proper operation, of cleaning to registered seed grade. Some of the others are not so good, and are not recommended for more than Commercial seed grades. In a few cases, permits have been suspended temporarily, because of needed improvements in the Plant, or because of careless operation.

Considerable work has been done during the year towards improving the design of the buildings, machines, and equipment used. As a result, there have been a few minor changes in the later Plants, in order to increase their efficiency, and to simplify their operation. Particular attention is being paid to dust removal and it is expected that with the information gained, dust removal installations will be standard equipment in all Plants built in the future.

The Plants apparently are doing the job they are intended to do. Seed Drill Survey, on a Province-wide scale showed that in 1949, only 23% of the samples graded No. 1 seed, and that in 1953, 33% graded No. 1 seed. This increase is due almost entirely to the effect of the Plants in the districts they serve.

This is a worthwhile improvement, but there is a long way to go yet. Alberta uses approximately 18,000,000 bushels of seed grain. It is estimated that the recognized Seed Cleaning Plants, Municipal, and Privately-owned, will clean about 5,500,000 bushels of seed this season. This leaves over two-thirds of the seed used, to be cleaned on the farm, in grain elevators, or not cleaned at all. This is not a good situation, as seed cleaned on the farm, or in grain elevators, rarely is clean enough to be called seed.

CROP PROTECTION SERVICE

CROP INSECTS

Grasshoppers

The grasshopper outbreak in southern Alberta which started in 1948 and reached its peak in 1950 declined to a very low mark in 1953. Three successive wet summers in conjunction with extensive cultural and chemical control measures carried out during the outbreak were factors which contributed significantly to this decline. This decrease of infestation may be noted from the following table which shows the acreage affected in southern Alberta, and the degree of infestation for the last three years:

Year	Approximate Acreage Affected	Decrease of Infestation
1951	10,000,000	From Moderate to Severe.
1952	3,000,000	From Normal to Light.
1953	500,000	Sub-light.

Towards the middle of August a moderate infestation appeared in the Bow Island area. About 300 acres of grain were sprayed by aircraft and additional acreage sprayed by field sprayers. Timely action resulted in no crop damage.

In the Peace River area, the few localized outbreaks were somewhat less extensive than in 1952 with the exception of the Fort Vermilion region where some fields were severely damaged. The affected areas were as follows:

- (1) Scattered infestations from Falher to the Smoky River.
- (2) Tangent-Eaglesham region.
- (3) Peoria-Bad Heart region.
- (4) Keg River region.
- (5) Worsley area.
- (6) Heavy localized infestations in the Fort Vermilion area.

As in the previous years infestations in the Peace River Block were mainly confined to legume and forage crop fields. Action

was taken immediately so that in most areas actual crop losses were negligible.

Under the provincial grasshopper policy, baits, sprays and dusting insecticides were made available to farmers on the following basis:

- (1) Sawdust, mill feeds and insecticides for preparation of bait were made available to all Municipalities, Improvement Districts and Counties which requested them. Bait was available from 20 stations—strategically located for the convenience of the farmers. Prepared baits were supplied free to farmers with the Municipality and the Government sharing the cost equally.
- (2) Aldrin sprays and dusts were available to farmers from Municipalities and from 22 bait stations in southern Alberta and 7 Depots in northern Alberta at a cost of \$7.00 per Imperial gallon for a 25% emulsifiable concentrate and 12 cents per lb. for a 2.5% dust.

Trials using Dieldrin for grasshopper control were repeated for the third year in succession and in all instances this insecticide proved very satisfactory.

No new purchases of grasshopper insecticides were made in 1953 because sufficient quantities were on hand. As of December 31, 1953, there were still 3,494 gallons of Aldrin spray on hand.

The following table shows the extent of the 1953 grasshopper campaign as compared with that of the four preceding years:

	1949	1950	1951	1952	1953
Acres of land in infested areas	11,000,000	10,000,000	10,000,000	3,000,000	500,000
Acres of crop land menaced	8,000,000	700,000	400,000	30,000	5,000
No. stations operated	75	76	60	30	10
Bu. poisoned bait spread	191,000	184,000	103,062	631	50
No. farms receiving bait	2,780	2,336	1,072	12	1
Estimated acres crop destroyed	2,500	2,000	900	700	100
Estimated lb. technical chlordane used	67,000	23,560	2,500	350	..
Acres treated with chlordane	52,000	6,550	1,500	550	..
Estimated lb. technical Aldrin used		13,000	10,000	800	65
Acres treated with Aldrin		100,000	62,500	6,500	600
No. lb. 10% chlordane Dust used	15,000	5,000		100	..
No. lb. 2½% Aldrin Dust used		25,000	22,000	150	50

At four meetings and Short Courses in southern Alberta and four meetings in the Peace River area, grasshopper control using cultural and chemical methods was discussed by the Supervisor of Crop Protection Service. District Agriculturists and Field Supervisors also held other meetings.

The following information relating to grasshopper control and the policy was issued from this Branch to all District Agriculturists, Field Supervisors, station operators and municipalities:

- (1) The 1953 Grasshopper Control Policy.
- (2) Revised Bulletin No. 85 "Baits, Sprays and Dusts for Grasshopper Control".
- (3) Revised Charts on "Application of Aldrin Sprays and Dusts".
- (4) Chart re "Precautions on the Use of Aldrin for Grasshopper Control".
- (5) Instruction to Station Operators on "The Preparation and Distribution of Baits".

- (6) Bait Station Record Books used in connection with the Sale and Distribution of Sprays and Dusts.

There were provincial Fieldmen, stationed at Lethbridge, Medicine Hat, Oyen and Fairview, who assisted in the grasshopper campaign.

Wheat Stem Sawfly

There was a considerable increase in the Sawfly damage in the Whitla, Lethbridge-Foremost and Nobleford-Vulcan regions. The infestation in other areas remained similar to 1952. The infestations were confined to the brown and dark brown soil zones of south-eastern Alberta.

Control measures for Wheat Stem Sawfly were outlined at various meetings in the infested areas. An estimated 7,600 bushels of Chinook wheat were planted in 1953 and a significant demand for this variety in the sawfly infested area would indicate that the 63,000 bushels presently available in Alberta would be in demand for 1954 planting.

Cutworms

(1) Pale Western Cutworm

Pale western cutworm infestation occurred mainly in the east-central portion of Alberta. Damage was light and patchy. A number of fields in the Acadia Valley Municipal District was sprayed with chlordane by conventional low-pressure, low-volume weed sprayers using about 1½ lbs. technical chlordane per acre with adequate control obtained. This was the only area where an outbreak occurred in Alberta. The cool wet spring which delayed seeding and growth and the above normal rainfall during May and June were instrumental in preventing the outbreak from reaching serious proportions.

(2) Red-Back Cutworm

This pest was reported from Wetaskiwin, Edmonton, Stony Plain, Athabasca, and Smoky Lake regions as doing some slight damage to grain on a few isolated fields and gardens. A mimeographed bulletin prepared by this office on the control of the red-backed cutworm was mailed to all District Agriculturists, Field Supervisors and others who requested this information. One demonstration by this Branch on the use of moistened Aldrin-bran bait gave excellent results.

(3) Black Army Cutworm

A small outbreak of this cutworm occurred in the Lacombe district where some forage and cereal crops were severely affected. Investigation was conducted by this Branch, and DDT, Aldrin and Toxaphene were supplied for demonstration purposes. All gave good control by spraying at recommended rates. Unsprayed portions recovered partially after the larvae ceased feeding towards the end of June.

Wireworms

As in 1952, the wireworm was the most destructive insect pest of cereal crops and potatoes. Infestations occurred in the following regions:

- (1) Most of the Peace River area.

- (2) Camrose region.
- (3) Isolated spots around Edmonton.
- (4) Calgary-Strathmore region.
- (5) In the area around Lethbridge.

These infestations varied from light to severe. A number of the potato fields in the Edmonton region showed up to 10% damage.

The use of benzene hexachloride (BHC) as an active ingredient was recommended and used as a seed treating insecticide in the infested areas.

Large quantities of BHC were available at most farm supply stores and commercial firms reported good sales of this insecticide.

Mimeographed sheets on wireworm control were prepared by this office and mailed to all District Agriculturists, Field Supervisors and others who requested information. Over 700 of these circulars were released.

Sweet Clover Weevil

Sweet clover stands in southern and central Alberta showed considerable damage due to this pest, but good recovery was made by the plants after abundant late-spring rains fell. In northern Alberta this insect spread over a more extensive area than in 1952. There was less recovery than in southern Alberta due to the later appearance of the weevil. A number of the fields in the Carvel district (Stony Plain Municipal District) were completely destroyed. In this district, the weevil appears to be a limiting factor in the production of sweet clover.

A limited survey was conducted to estimate the extent and degree of infestation of the weevil. The table below shows the results; figures for the preceding 4 years are given for comparison purposes:

	1949	1950	1951	1952	1953
Acres sweet clover examined	118,640	121,500	118,000	134,600	120,000
Acres on which weevil found	13,475	20,500	15,000	38,500	39,000
Acres light infestation	5,935	7,800	8,000	32,500	32,000
Acres severe infestation	7,540	12,700	7,000	6,000	7,000

Three trials were conducted in the Edmonton area using Aldrin and Chlordane. Good results were obtained at recommended rates.

Information on control methods was prepared and distributed from this office.

Lygus Bug

Lygus bug populations in alfalfa fields in southern Alberta remained small throughout the season and no insecticide application was necessary. There was some damage to alfalfa crops in Peace River and Deadwood regions, but the incidence of damage was less than in 1952. Supplies of Aldrin were made available in the area but none was used for this purpose.

English Grain Aphid

A number of isolated outbreaks of this insect in the Rocky Mountain House area caused some concern to the farmers involved. Most of the affected grain was in advanced growing stage however, so that there were practically no losses. On August 15, this Branch provided an insecticide known as Metacide to be used on less

mature but affected crops. Good results were obtained when used at a rate of 2/3 pint per acre.

A heavy outbreak of this pest occurred in the Grande Prairie district in the late fall. Due to the anticipated extensive use of an insecticide for controlling the aphid, this Branch obtained a large supply of "Malathion" for use in this area. Very good control was obtained on sprayed fields. (From the standpoint of toxicity to humans Malathion is a much safer insecticide to use than Metacide.) This was the second successive year that aphids were a serious problem in the Grande Prairie region.

Stored Grain Insects

Following the outbreak of the Rusty and the Saw-Tooth Grain Beetle in stored grain in southern Alberta in the fall of 1952, much publicity was given through this office for farmers to watch their grain for possible outbreaks in 1953. Infestations were largely restricted to tough or heated grain.

During the cold weather periods good control of these pests was obtained by turning the grain. In the late spring control by fumigation was recommended. A demonstration was conducted at the Sunnyside Hutterite Colony, New Dayton in conjunction with entomologists from Science Service Laboratories, Lethbridge, Stored Product Insect Unit, Winnipeg and Ottawa, and this Branch to show methods of fumigation. Three trials were set out in this area until a workable method was adopted. Other demonstrations were conducted to show farmers methods of using the fumigant.

This Branch obtained 25 respirators from Civil Defence authorities for fumigation purposes. Masks were provided to farmers who fumigated their stored infested grain stocks. "Dawson 73" and "Dowfume EB-5" (approved fumigants) were used with favorable results. Arrangements were made with the commercial firms to have these fumigants available where needed.

The following circulars regarding stored grain infesting insects were released for information of farmers:

- (a) The Rusty Grain Beetle (December, 1952)
- (b) Grain Fumigation with Dawson Fumigant Formula 73. (May, 1953)
- (c) Preparation of Farm Grain Storages (August, 1953)
- (d) Fumigating Stored Grain on the Farm (October, 1953)
- (e) Control of Rusty Grain Beetles in Farm Stored Grain During the Winter (November, 1953)

A Fieldman under the direction of this Branch was appointed in the spring to survey the grain beetle problem and to aid and encourage farmers to control this pest. In early July, a Conference was held at Calgary regarding the storage problem of Alberta grain and insects affecting it, and recommendations were drafted which were made available to all farmers through District Agriculturists' offices.

Grain Thrips infested several thousand acres of barley in the Peace River area around Hines Creek and Worsley. First reports received by this office about this infestation were on July 15 and investigations were conducted on July 17. It was noted that damage varied from 5% to 50%—the heavier damage invariably

confined to the later seeded crops. Most of the damage was done when grain was inspected, hence no immediate control could be applied. Farmers were advised however, not to plow under infested crops. Favorable yields from the infested barley crops this fall indicated that the crops recovered and the damage was not as serious as anticipated.

CROP DISEASES

1. Diseases of Cereal Crops

Common root rot of wheat and barley was more prevalent than in 1952 throughout Alberta. In some later maturing fields up to 10% of prematurely blighted plants was noted.

Stem rust and **leaf rust** infection varied from trace to slight with practically no damage. The stem rust was found in the Peace River area. In the Alliance area infestations were serious. The infection of Thatcher Wheat suggested the probability of the presence of race 15 B.

Ergot. Climatic conditions were favorable for the development of this disease. The infection in wheat and barley being much greater than normally occurs. The infestation in wheat was particularly severe and the presence of ergot bodies was in some cases sufficient to cause rejection from seed grades.

Wheat streak mosaic was prevalent in the established winter wheat areas of southern Alberta. At least 25 fields were noticed which suffered severe damage. Damage to winter wheat was correlated with early seeding in close proximity to a source of infection. Spring wheat located near diseased winter wheat was also injured.

2. Diseases of Forage Crops

Bacterial Wilt was found in nearly all of the alfalfa fields in southern Alberta in 1 to 3 year old stands with heavier incidence in the older stands. **Crown bud rot** was also generally distributed in the irrigated areas. Pathologists from the Science Service Lab. at Lethbridge indicated that in most fields all plants became infested during the second year of growth.

Root Rot of sweet clover was unusually prevalent and destructive throughout the Province. In some instances the damage done by this disease was erroneously blamed on the sweet clover weevil.

3. Diseases of Potatoes

(1) General

As in 1952 the most common disease of potatoes was Black-leg. Leaf-roll and rhizoctonia were also prevalent in most commercial fields. Early crops of potatoes harvested during hot weather at Medicine Hat and Turin were severely damaged by bacterial soft rot during transit. Late blight was not found in southern Alberta but appeared in the Edmonton area on August 28th. By September 5th, many fields had a slight infection but adverse weather checked further development.

(2) Bacterial Ringrot Survey—1953

All the Ringrot diseased stocks of the 1952 crop were disposed of by the end of February, and the storage premises where new seed

stocks were brought in were fumigated. The 132,560 pounds of Foundation A Netted Gem seed held as reserve seed supplies by the Department were readily purchased by growers who had diseased crops in 1952. The practice of providing quality seed in the Lethbridge areas has been one important factor in keeping the incidence of Ringrot to a minimum. In the Edmonton area an up-to-date list of growers who had approved seed was available. Sixty-five local growers who were interested in purchasing good seed potatoes took advantage of this service.

There were 14 inspectors employed in making the Ringrot survey. A training school was held at Edmonton on August 28th, and at Lethbridge on August 31st at which inspectors were familiarized in detail with the Ringrot disease, the identification of symptoms, and the methods to be followed. The number of inspectors in the pest areas were as follows:

Edmonton —4
 Calgary —2
 Brooks —2
 Lethbridge—6

Inspection work started September 1st and was completed by September 16th. Potato crops generally were planted later than normal, and since Ringrot symptoms are not apparent until the crop is near maturity, a number of suspicious fields were reinspected at a later date.

The following table shows the number of fields and the acreage inspected in the pest areas in 1953. The results of the 1951 and 1952 survey are shown for comparison purposes:

Pest Area	Year	No. Farms Inspected	No. Farms Diseased	Acreage Inspected	Acreage Diseased	% Diseased of total Farms	% Diseased of total acreage
Lethbridge	1951	313	31	4,000	220	9.9	5.5
	1952	282	59	3,284	759	20.6	23.1
	1953	281	58	3,977	1,144	22.4	28.7
Calgary	1951	111	4	235	15	3.6	6.4
	1952	64	0	144	0	0	0
	1953	66	5	191	26	7.5	13.6
Brooks	1951	92	2	1,230	24	2.2	1.9
	1952	69	2	1,055	5	0.03	0.5
	1953	61	3	1,160	65	4.9	5.6
Edmonton	1951	255	22	2,008	219	8.6	10.9
	1952	187	14	1,802	56	7.6	3.1
	1953	195	9	2,202	144	5.2	6.5
Total	1951	771	59	7,473	478	7.7	6.4
	1952	601	75	6,286	819	12.5	13.0
	1953	603	75	7,530	1,379	12.4	18.3

It will be noted that there were 603 potato fields examined in the special pest control potato growing areas in the Province, involving 7,530 acres.

Based on the percentage of the total fields showing Ringrot, the incidence of this disease was only slightly reduced. There were, however, 560 acres more than last year which showed the presence of the disease.

The greatest reduction in the incidence of Bacterial Ringrot of potatoes in Alberta this year occurred in the Edmonton district. Only 9 fields showed a trace of this disease. On 5 of these fields only 1 or 2 plants were found. Good control and precautionary measures followed by the growers have been largely responsible for the decline of Ringrot in this area.

In the Calgary district, including the Drumheller area, there were 5 diseased fields located involving 26 acres. Potatoes from these fields have now been practically disposed of through approved outlets so that there is no possibility of this stock getting into seed channels.

The situation in the Brooks area, with regard to Ringrot changed very little. Only 3 fields showed a trace of Ringrot, and 1 grower has already made provisions for his seed supply for next year. The incidence of Ringrot in this area has been on a steady decline.

Fifty-eight farms showed Ringrot in the Lethbridge area. The following reasons are given for the unsatisfactory condition which has existed in the Lethbridge area;

(1) A large number of new growers obtained seed from unsatisfactory channels. In spite of the fact that much publicity was given respecting existing regulations in connection with commercial potato production, many of these new growers claimed they were not aware of this disease.

(2) Old sacks have been used quite freely.

It is important to point out that although there was only a slight increase in the incidence of Ringrot in the Province, the degree of infestation on the fields has decreased considerably.

Potatoes which were imported into the Province last year were checked for the presence of Ringrot. No infested shipments were found. Since the establishment of the regulations respecting the inspection of imported potatoes, it appears that shippers are more careful about stocks which are brought in to the Province.

LIVESTOCK PESTS

Cattle Grubs (Warble Flies)

It is estimated that there were as many cattle treated for warble flies in 1953 as in 1952. The following table shows the number of cattle treated each year in the last 5 year period:

	1949	1950	1951	1952	1953
No. cattle treated for warble fly control	400,000	300,000	300,000	375,000	375,000

Timely circular letters were mailed out early in the year to all Municipal fieldmen respecting cattle treatment for warble flies. At every opportunity—through the farm press, radio, meetings—farmers and ranchers were encouraged to treat their stock.

Spraying demonstrations were continued in the Municipal Districts of Smoky Lake and Eagle. 16 herds were sprayed, with a number of local farmers in attendance at each demonstration. Spraying trials which were set out in the Municipal District of Strathcona were discontinued in 1953, as the co-operators continued their own projects.

RODENT CONTROL

Pocket Gophers

Pocket gophers continued to be troublesome in the black soil zones, damaging forage crop fields and some gardens. A few demonstrations using Methyl-bromide capsules in gardens gave fairly satisfactory control. Two gardeners who were advised to try using car exhaust gas (carbon monoxide) reported good results especially where gas was introduced into the main runs.

Norway Rats

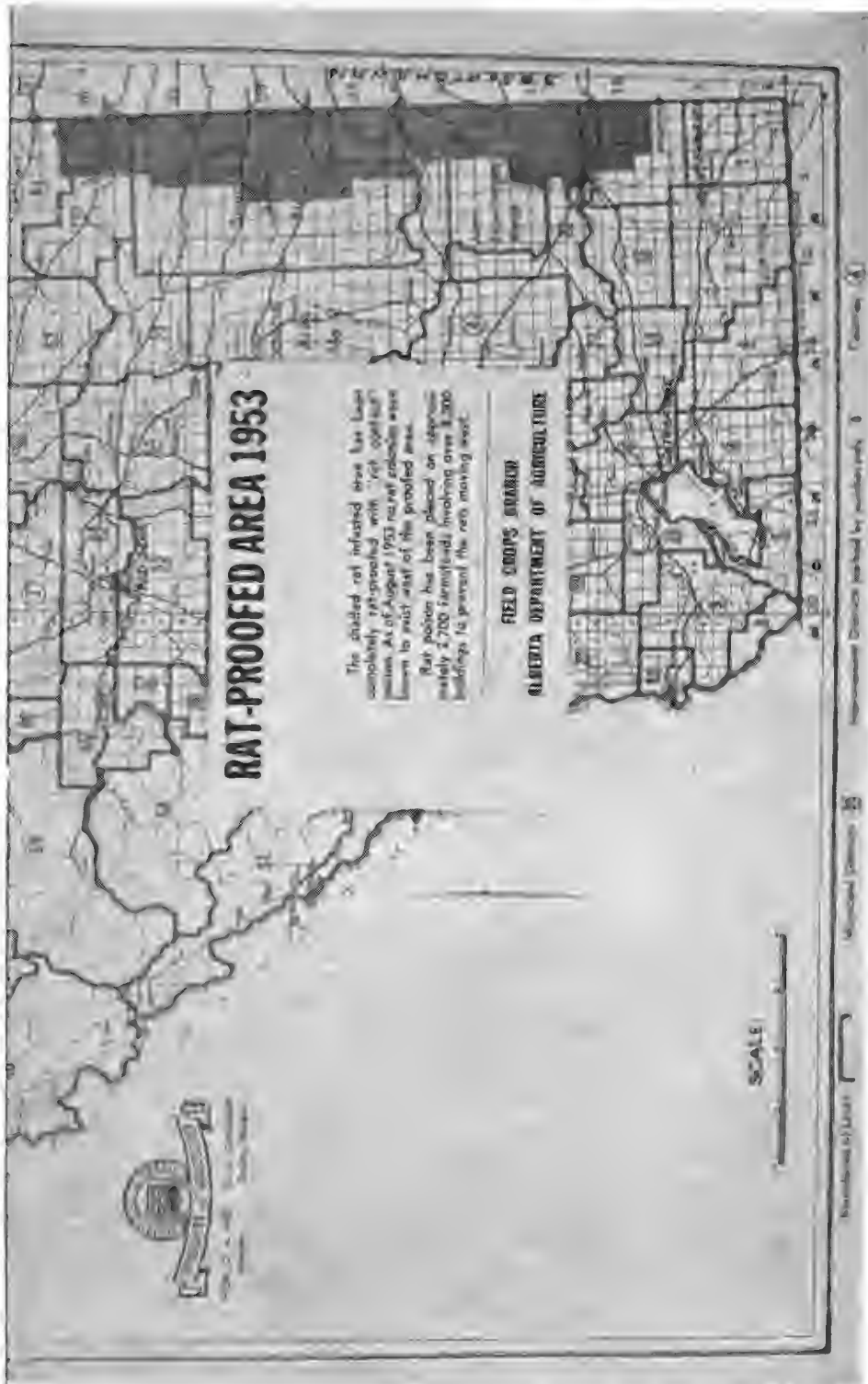
The rat invasion area expanded northward during 1953. In addition to the border area infested since invasion began in 1950, in Ranges 1 and 2 west of the 4th Meridian, between Townships 9 to 43 inclusive, rats have started to filter through the Lloydminster area. Three positive cases were located this fall on farms at Streamstown and Lloydminster. On all other fronts, it would appear that the invasion has been halted.

The "poison proofing" operation of N. L. Poulin Ltd., Rat Exterminators, Winnipeg, terminated July 31st. This Company was employed by the Department in June, 1952, to exterminate rats and "poison proof" the border area. "Proofing" consists of placing arsenic, contact powder under buildings and other rat harborages to provide a buffer zone, which is intended to kill off rats as they migrate westward. About 140,000 pounds of rat contact powder were placed on approximately 2,700 farmsteads. Over 8,000 buildings were treated. The "proofed" area is approximately 4 Ranges wide, west of the 4th Meridian and extends from the Cypress Hills to north of Provost, Townships 9 to 41 inclusive. A Provincial Pest Control Officer supervised the proofing campaign, besides checking infestations and applying other control measures such as gassing and Warfarin baits.

In addition to the rat contact powder, Warfarin was the main poison used. Under the new policy, adopted August 31st, 50 pounds of Warfarin Concentrate and 1,000 pounds of Ready Mixed Warfarin Bait were purchased. The latter material requires no addition and can be conveniently set out by farmers and Pest Officers. Fifty pounds of Warfarin Concentrate and 510 pounds Warfarin Ready Mixed Bait were supplied to District Agriculturists for redistribution to Pest Officers and others with suspected rat problems. Warfarin is supplied free of charge to any Municipality upon application to the Field Crops Branch, providing the Municipality has an appointed Pest Control Officer. Other new rodenticides are being tested for effectiveness under Alberta conditions.

All municipalities, cities, towns and villages were asked to confirm appointment of Pest Control Officers to handle local rat problems. To date a total of 195 officers have been appointed throughout the Province. Seven provincial Pest Officers, stationed at Edmonton, Lethbridge, Fairview, Oyen and Medicine Hat, checked reports and assisted local officers in the rat control campaign.

A new pamphlet "Kill Rats with Warfarin" was printed; the booklet "Rat Control in Alberta" was revised for printing in bulletin form and Rat posters and other literature were widely distributed. Six meetings were held in the border area, where rat control measures were thoroughly discussed.



RAT-PROOFING AREA 1953

The shaded rat infested area has been completely rat-proofed with "rat contact" poison. As of August 1953 no rat colonies were known to exist west of the proofed area.

Rat poison has been placed on approximately 2,700 farmsteads involving over 8,000 buildings to prevent the rats moving west.

COYOTE CONTROL

With the approval of strychnine in 1953 for use in the coyote control program, the following poisons were now approved and used in the settled areas of Alberta:

- (a) cyanide—in the form of "coyote getters".
- (b) strychnine—as special pellets, each containing 2.18 grains of strychnine.
- (c) sodium fluoroacetate—or more commonly known as "1080" used in preparing meat baits.

There were 22 new districts which accepted the provincial coyote control policy in 1953, making a total of 81 Municipalities, including Counties, Improvement Districts and Special Areas. The following table shows the number of districts and the years in which they accepted the provincial coyote policy:

	1951	1952	1953	Total
Counties		1	1	2
Municipal Districts	26	12	13	51
Improvement Districts	5	12	8	25
Special Areas	3			3
Total Areas	34	25	22	81

Since 1951, when the Department of Agriculture undertook the control of coyotes a total of 29,000 coyote getters, 70,000 chemical cartridges and 116,000 strychnine pellets have been distributed to Pest Control Officers in settled areas. Demands for materials and devices in 1953 far exceeded those in 1952. Coyote getters, scent, pellets and the various forms used in connection with their distribution were supplied almost daily to the field force. As an example of the extent of materials released, there were over 8,000—4 oz. size bottles of scent shipped out, Pest Control Officers were supplied with 25,000 warning signs, which were posted for safety precautions to indicate sets.

With the outbreak of rabies, this Branch assumed a significant share of the responsibility in the campaign to eliminate this disease. There were 12 provincial Pest Control Officers appointed to conduct a predatory animal control campaign in the areas outskirting the Municipal Districts. The coyote control campaign was intensified in all regions.

Good control of coyotes was obtained in all regions where guns and pellets were used extensively.

The use of 1080 poison was restricted to sparsely settled areas of southern Alberta. All the 1080 baits which were placed in 1952 were picked up and buried. At the request of the Municipalities, the following number of 1080 baits were prepared and set during November and December in areas as shown:

District	No. Stations Set Out
Pincher Creek M.D. No. 9	18
Cochrane M.D. No. 6	21
Sugar City M. D. No. 5	20
Burlington M.D. No. 2	20
L.I.D. No. 1	8
L.I.D. No. 11	8
L.I.D. No. 22	19
Army Experimental Range	10
Blood Indian Reserve	9
L.I.D. No. 23	8

In addition 10 baits were placed in the Kleskun Lake area in the County of Grande Prairie, and the same number in the Holyoke district of the Municipal District of Bonnyville No. 87, and 13



COYOTE CONTROL AREAS 1953

The shaded areas are districts where coyote getters (guns) and strychnine pellets have been approved and used for coyote control.



"1080" APPROVED AREAS 1953

The shaded areas are districts or parts thereof where Compound "1080" has been approved and used for coyote control. This poison is used only in sparsely settled areas. Baits are usually placed on a one per township basis.

baits in the Municipal District of Lac Ste. Anne in the regions which are very sparsely settled and where special problems exist.

A new booklet was issued by the Branch entitled "Poisons for Coyote Control". There were 15,000 copies distributed to District Agriculturists and Pest Control Officers. Methods for effective use of getters and pellets were outlined in this booklet.

There were 22 schools held to train those present in the safe and effective handling of the approved poisons. Four hundred persons were in attendance.

Educational Publicity, Short Courses, Radio Talks, etc.

Six insecticide and fungicide trials were set out for demonstration purposes, in co-operation with the District Agriculturists and Field Supervisors.

A Crop Protection Display was exhibited at Calgary, Lethbridge and Brooks Short Courses.

There were 118 insect, disease and rodent specimens submitted for identification and information on control. The Supervisor of Crop Protection Service addressed nine Short Courses and eleven other meetings. A Potato Field Day was organized in the Lacombe area in August, with some 28 persons present.

Ten radio talks were given and ten short bulletins on timely topics were prepared for announcement on the radio farm programs. There were also twenty-two articles submitted to the weekly release, "Farm Notes".

Acknowledgment

Sincere appreciation and grateful acknowledgment is hereby made to the many Entomologists and Pathologists of the Canadian Department of Agriculture, and the University of Alberta, for providing this Branch with the results of various surveys and for their assistance and information in planning and conducting programs for the control of plant diseases and insect pests.

Appreciation is also gratefully acknowledged to the Department of Zoology, University of Alberta, for the assistance provided in identifying various rodents and other specimens submitted.

HORTICULTURE

Tree Planting

In 1953, the farmers of Alberta planted 1,548,190 trees. The Federal Government Forest Nursery Stations at Indian Head and Sutherland, Saskatchewan, supplied 75% of the trees. The Alberta Government Nurseries at Oliver and Brooks provided the remainder.

The two mechanical tree planters, owned by the Department, were again used for demonstration purposes. In 1953, 36 tree planting demonstrations were held, the machines planting 56,165 trees. The demonstrations were held at the following locations: Edmonton; Westlock; Vermilion; Lloydminster; Clandonald; Hanna; Strathmore; Cardston and Ponoka.

The planting of farmstead windbreaks was still the most popular type of planting with Alberta farmers. However, each year a greater percentage of the trees are being used for roadside planting and field windbreaks to assist in soil erosion control and highway beautification and protection.

The weather in 1953 was excellent for tree planting. While the amount of snow moisture was less than average, heavy spring rains at opportune times assured the trees getting off to a good start. The weather was cool through most of the growing season, with a better than average amount of rainfall. Again this year, the only serious losses were with hardwood cuttings of poplar and willow. All rooted trees survived, and over ninety percent made excellent growth during their first year.

Forest Nursery Station, Oliver

In 1953, 109,074 hardwood cuttings of poplar and willow, and 324,516 trees, were supplied to 814 applicants. This was an increase of approximately one hundred percent over 1952. At the end of the year, there were 875,200 white spruce; 677,200 Colorado spruce; 103,300 Siberian larch; 35,600 lodge pole pine; 10,000 Scotch pine, and 9,000 Norway spruce in the seed frames. In addition to evergreens, there are approximately 200,000 Caragana; 65,000 Manitoba maple; 78,000 green ash; 23,000 American elm; 3,500 Manchurian elm; 3,000 mountain ash, and 500 honeysuckle. There is also in the transplant beds 290,000 white spruce; 200,000 lodge pole pine; 150,000 Colorado spruce and 15,000 Scotch pine. The Nursery received from the Saskatchewan Department of Forestry, approximately 450,000 lodge pole and Jack pine seedlings, which were planted at the Nursery for future distribution.

1953 was an exceedingly poor year for tree seed production. It was not possible to gather any local seed of spruce or pine. Smaller quantities of Siberian larch, mountain ash and green ash were gathered and processed. Approximately 250 pounds of Manitoba maple seed were gathered.

During the active growing season, seven men were employed at the Nursery. In addition, extra help was hired during shipping and seeding time, and patients from the Oliver Mental Hospital were used for shipping and weeding.

During the year, the packing and shipping building was enlarged and painted. The living quarters for single men, in the basement of the Nursery Foreman's house, were completed and furnished. One hundred and thirty new seed frames were constructed by the employees of the Nursery. Graveling of the Nursery roads was continued, and 20 acres of pasture land were broken and the area prepared for transplants in 1954. Three-quarters of a mile of new windbreaks were planted on the Nursery.

Other Activities

During the year, the Supervisor of Horticulture spoke at 44 meetings. All phases of horticulture were discussed at these meetings, with particular interest in farmstead planning and tree planting by the rural people, and landscaping of the home grounds by the urban audiences. He served as judge at six horticultural bench shows, and assisted in judging several of the Girl's Garden Club Achievement Days. Generally, because of a good growing season, the quality of vegetables and fruit shown at these competitions was excellent. This was particularly so in the case of the members of the Garden Clubs.

In addition five radio talks were given and several short notices were prepared for announcement on the Farm Radio Program. Nineteen timely articles were published in the weekly release, "Farm Notes".

Alberta Horticultural Association

This Association held its first annual meeting in Calgary on March 24th and 25th. The theme of the Conference was "The Planning of Urban and Rural Properties". Nine local Societies had accredited delegates at the Conference. In addition, many members of the Calgary Garden Club and Horticultural Society attended the sessions. Reports were received from Committee Chairmen, and it is hoped to issue, in 1954, a publication on judging standards for horticultural crops. In addition to the general meeting, the Executive met in Lethbridge early in September.

Potato Production

It is estimated that 15,400 acres were planted to potatoes in 1953. This is 1,300 acres less than were planted in 1952.

Seed Potato Production

The following is a five-year summary, relative to seed potato production in Alberta:

	1949	1950	1951	1952	1953
No. of Growers	99	156	114	81	86
No. of Fields Inspected	182	293	212	177	200
Acres Inspected for Certification	1,005	1,684	975	702	942
No. of Fields Receiving Certification	148	247	183	163	168
Acres Passed for Certification				578	844

Tuber Indexing of Foundation Seed

The service of indexing foundation potatoes was continued jointly by the Field Crops Branch; University of Alberta, and the Canada Seed Potato Certification Service. 719 tubers were grown in the University greenhouses, and disease readings taken by a competent pathologist. 513 tubers (72%) qualified as suitable for production of foundation stock.

Horticultural Advisory Board

This Board, appointed by the Minister of Agriculture, consists of representatives of the Field Crops Branch; University of Alberta; Experimental Farms Service; the Science Service of the Federal Department of Agriculture, and the Canadian Nurserymen's Association. This Board is charged with the responsibility of recommending to the Minister with respect to all matters pertaining to horticulture.

Report of the Livestock Branch

(O. S. LONGMAN)

W. H. T. MEAD, Live Stock Commissioner

W. C. Gordon, Live Stock Supervisor

I. A. Coles, Supervisor of Feeder Associations

A. J. Charnetski, Live Stock Supervisor

Live Stock marketing resumed a more normal pattern than that experienced in 1952, when on March 2nd, after approximately one year of total restriction, the United States embargo on the importation of Canadian live stock and live stock products was removed. This action strengthened the live stock outlook, not so much by immediate increases in prices as by bolstering producer confidence which had been badly undermined due to the foot and mouth outbreak in 1952 and the resulting loss of export markets.

Cattle numbers were high, partly due to hold back from the 1952 markets. This resulted in very liberal runs of cattle on all Markets right through to the end of the year. Increased domestic consumer demand reached unexpected heights and proved largely responsible for absorbing greatly increased numbers without a serious price decline.

Production conditions were generally excellent throughout the year for all classes of stock.

This Branch suffered a great loss in the death of James Mitchell on December 23rd, who had been connected with the operation of the Cattle Improvement Policy for a number of years and was well known and respected by live stock men throughout the Province.

CATTLE

During the winter of 1952-53 there was an abundance of good quality feed, and cattle wintered in excellent condition. The summers of 1952 and 1953 were similar in many respects. An early dry spring which caused some anxiety regarding pastures in May was followed by bountiful rains in June and July, giving a summer pasture growth much above average. Also for the second successive year an open dry fall allowed grazing to continue well into November in most parts of the Province.

With a decrease in the price of good steers from approximately 22 cents early in the year to 18 cents in midsummer, the increase in per capita beef consumption which became so evident in 1952 was continued throughout 1953.

The fine open fall allowed for continuous flow of cattle through public stock yards and despite heavy marketing, no serious glut developed.

Cattle marketings for the year through the public stock yards and packing plants were about 25.8% more than last year.

Prices for pure bred breeding stock declined in accordance with the general decline in beef prices.

At the ninth annual Gallinger sale of Shorthorn bulls, 29 bulls averaged \$1,500.00. This compares with an average of \$2,049.00 in 1952. The top bull sold for \$4,500.00 to C. C. Warner of Lennoxville, Quebec.

At the 53rd annual Calgary bull sale a total of 1,135 bulls sold for an average price of \$595.08 as compared to 856 bulls for an average of \$714.63 last year. This is the second highest number of bulls ever sold at this sale being exceeded only by the 1,169 bulls sold in 1950. The average price was fourth highest in the history of the sale and exceeded the 1950 price of \$540.54 when numbers were near equal.

Alberta's first futurity show of young breeding cattle was held under the management of the Edmonton Exhibition Association in connection with the bull sale in March. This show created much interest as 48 Hereford, 40 Shorthorn and 29 Aberdeen Angus cattle were entered and shown. The interbreed championships, judged by a committee of 5 judges, were awarded to the Hereford bull "PEKALTA RETURN 19G", bred and exhibited by E. G. Garner and Son of High River, and the Shorthorn heifer "MELBAR MAXINE JEWEL", bred and exhibited by Wm. Melnyk and Sons, Chipman.

Thomas Usher of Scollard, Alberta, paid \$8,000.00 for the Hereford bull "MELWOOD SUPER DOMINO 82F"-321586-bred by M. C. Wood of Tofield. The Grand Champion Hereford bull "BRIGHT A MIXER L R D 38F"-335167-bred by W. J. Edgar and Sons, Innisfail, sold to C. O. Dench, Merry Acres Hereford Ranch, Calgary, for \$6,050.00. W. E. Lorne of Lancaster, Kansas, paid \$3,000.00 for the Shorthorn bull "RANNOCH MEMORY"-332540-bred by T. G. Hamilton, Innisfail. H. R. MacMillan, Arrowsmith Farms, paid \$1,900.00 for the Aberdeen Angus bull "LUCY'S BARDOLIER OF DALRENE 8th"-117444-bred by Flint and Flint, New Norway.



Photo by Lorne Stout.

Interbreed Female Champion 1953 Alberta Futurity Show "Melbar Maxine Jewel"— bred and exhibited by Wm. Melnyk and Sons, Chipman.



Photo by Lorne Stout.

Interbreed Bull Champion 1953 Alberta Futurity Show "Pekalta Return 19G"—bred and exhibited by E. G. Garner and Son, High River.

The consignment sales were the means by which Alberta's pure bred breeders disposed of 2,746 bulls of the three beef breeds. New sales were inaugurated during 1953 at Fairview and St. Paul.

AUCTION SALES OF PURE BRED CATTLE

Calgary Bull Sale:

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	133	\$ 825.56	175	\$536.40	165	\$475.18
Aberdeen Angus	70	963.57	92	698.75	152	443.55
Hereford	507	1,223.42	589	770.06	818	647.43
Total all breeds	710	\$1,123.28	856	\$714.63	1,135	\$595.08

Edmonton Bull Sale:

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	123	\$541.50	75	\$466.27	82	\$404.93
Aberdeen Angus	8	610.63	14	640.00	36	337.36
Hereford	82	911.77	124	618.94	149	554.53
Total all breeds	213	\$686.64	213	\$563.94	267	\$479.30

Lacombe Bull Sale:

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	117	\$600.00	123	\$332.90	138	\$311.78
Aberdeen Angus	107	725.00	148	368.46	134	342.28
Hereford	184	872.35	235	545.04	427	344.96
Total all breeds	408	\$755.35	506	\$442.00	699	\$337.90

Lloydminster Bull Sale:

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	38	\$606.18	50	\$344.60	37	\$347.16
Aberdeen Angus			1	525.00	1	320.00
Hereford	79	800.00	86	520.29	88	504.82
Total all breeds	117	\$737.05	137	\$456.20	126	\$457.05

Camrose Bull Sale:

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	30	\$410.66	22	\$250.23	27	\$263.15
Aberdeen Angus	1	350.00	..	..	2	210.00
Hereford	32	584.53	27	420.00	38	289.07
Total all breeds	63	\$498.01	49	\$343.78	67	\$276.27

Lethbridge Bull Sale:

	1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price
Spring Sale				
Shorthorn	2	\$312.50	18	\$322.77
Aberdeen Angus	2	390.00	9	227.77
Hereford	59	523.00	98	492.90
Total all breeds	63	\$513.57	125	\$449.32

	1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price
Fall Sale				
Shorthorn	6	\$435.00	10	\$224.50
Aberdeen Angus	1	400.00	2	207.50
Hereford	233	418.73	196	315.61
Total all breeds	240	\$417.56	218	\$296.00

Vermilion Bull Sale:

	1953	
	No. Sold	Av. Price
Shorthorn	13	\$220.80
Aberdeen Angus	11	201.80
Hereford	27	221.40
Total all breeds	51	\$213.04

St. Paul Bull Sale:

	1953	
	No. Sold	Av. Price
Shorthorn	5	\$225.00
Aberdeen Angus	3	245.00
Hereford	11	288.00
Total all breeds	19	\$264.00

Fairview Bull Sale:

	1953	
	No. Sold	Av. Price
Shorthorn	16	\$385.94
Aberdeen Angus	2	280.00
Hereford	25	322.60
Total all breeds	43	\$344.19

The June survey of the number of cattle on Alberta farms for the past five years is as follows:

Year	No. of Head
1949	1,465,000
1950	1,442,900
1951	1,563,000
1952	1,754,000
1953	1,910,000

Roughly one half of the increase in numbers was in beef cows and yearling heifers.

The official reports of the Canada Department of Agriculture show for Alberta the following cattle and calf marketings and total value for 1949 to 1953 (inclusive):

Year	No. Cattle	Value	No. Calves	Value
1949	526,958	\$ 80,624,000.00	126,089	\$ 6,304,000.00
1950	473,354	92,458,000.00	137,721	12,000,000.00
1951	385,660	102,007,070.00	92,649	11,320,781.00
1952	377,032	71,116,000.00	82,223	6,506,000.00
1953	463,424	67,020,000.00	107,107	6,322,000.00

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE 1953

	1949	1950	1951	1952	1953
British Columbia	102,883	89,258	64,869	78,570	95,811
Saskatchewan	6,633	4,249	4,175	1,800	1,865
Manitoba	30,188	19,623	14,047	8,942	16,833
Ontario	49,706	48,908	44,398	16,525	53,931
Quebec	36,756	20,889	13,841	15,122	35,231
Nova Scotia . . . . .	.. ..	28	6	60	.....
New Brunswick . . . . .	.. ..	22	.. ..	.. ..	.....
U.S.A.	80,342	115,060	63,287	2,896	15,779
Newfoundland	71	.. ..	.. ..	.. ..	.....
Prince Edward Island . . . . .	.. ..	.. ..	21	.. ..	.. ..
	306,582	298,037	204,644	153,915	219,450

THE CATTLE IMPROVEMENT POLICY

There were no changes in the Policy during 1953. The general trend to placement of more bulls on farm to farm transactions, which was evident in 1952, was even more evident in 1953.

The general regulations governing the policy were:

- (1) The percentage contributed toward the cost of sires by the Department of Agriculture was ten per cent with maximum assistance per sire of fifty dollars as a basic policy.
- (2) In Pure Bred Sire Areas, assistance was fifteen per cent with maximum assistance per sire of seventy-five dollars.
- (3) The Policy was open to any bona-fide farmer other than pure bred breeders.
- (4) A second bull could be obtained through the policy if two years had elapsed since purchase of the first sire.
- (5) A bull could be obtained by:
 - (a) submitting an application to the Live Stock Branch requesting purchase and prepaid shipment to the applicant's railway station, or,
 - (b) selecting a bull from a local breeder, submitting an application and requesting approval as to quality and price on the breeder's premises.

During the year, 677 bulls were placed. These were by breeds: 102 Aberdeen Angus, 167 Shorthorn, 362 Hereford, 12 Red Poll, 28 Holstein, 2 Ayrshire and 4 Jersey.

Four hundred and forty-three bulls were appraised on breeder's premises for placement with applicants residing locally.

Two hundred and thirty-four bulls were selected by the Department and shipped freight prepaid to applicants.

The following table shows the placement of bulls for the years 1949 to 1953 inclusive:

1949	753
1950	249
1951	309
1952	526
1953	677

LIVE STOCK LISTING BUREAU

This Policy makes provision for placing pure bred breeding stock, male or female, with pure bred breeders and others not eligible to come under the Live Stock Improvement Policy. There is no financial assistance either by way of reduced purchase price or prepayment of freight. During 1953, five bulls and fifteen females were placed.

ARTIFICIAL INSEMINATION

Artificial breeding service from Holstein-Friesian bulls was continued from the breeding station at the Olds School of Agriculture under the direction of Mr. H. P. Cross. Service was available to grade or pure bred cows in the area immediately adjacent to Olds and to pure bred cows only where shipment was required to other points.

Service was available from three bulls, "SOVEREIGN MASTERPIECE", "GLENAFTON ESCORT" and ROCKWOOD ANTHONY ROMONARCH".

The following table shows the volume of service provided to grade herds:

	1951	1952	1953
No. of herds	51	51	58
No. cows bred	210	200	195

The following table shows the volume of service provided in pure bred herds:

	1951	1952	1953
No. of herds	119	96	97
No. of cows	436	411	457

A new artificial breeding association covering the area of the Edmonton milk shed started operations at December 1st. This organization has arranged to obtain semen from the B.C. Artificial Breeders' Association, Milner, B. C.

DAIRY HEIFER CALF POLICY

This Policy was continued to provide a service in picking up any prepaying shipments of dairy heifer calves to properly organized 4H dairy clubs. During the year, 161 calves were shipped to the various clubs compared to 177 in 1952 and 47 in 1951. The price of calves to the members was reduced from \$40.00 to \$32.50 each during midsummer to keep in line with calf market values.

COMMUNITY AUCTION SALES

Selling of cattle and calves by auction continued at the stock yards at Calgary, Lethbridge and Edmonton with most offerings sold in this manner.

Privately operated weekly local auctions started at a number of points and in some cases built up to considerable volume. These sales handle all types of live stock and function mainly as a service to the locality, but in two cases, at least have become large enough to attract speculator buyers. Such sales are now operating at Red Deer, Olds, Wetaskiwin, Camrose, Hanna, Stettler, Ponoka, Cremona and Mannville.

As in years past, auction sales of cattle were held at country points under the sponsorship of a number of producer selling organizations. These sales were exceptionally well patronized and the price relationship to public markets was in most cases excellent. Sales under the direction of the Community Auction Sales Association, Pincher Creek, were held at Pincher Creek, Lundbreck, Fort MacLeod, Parkbend, Pakowki, Cardston and Whiskey Gap. A number of sales were held at some of those points. In addition sales were held by other organizations at Walsh, Medicine Hat, Brooks, Cadogan and Lea Park.

A total of 30,266 head of cattle were inspected through the community cattle sales, compared to 21,529 in 1952 and 20,023 in 1951.

FEEDER ASSOCIATIONS

During the 1952-53 feeding season, twenty-five Associations operating under "The Feeder Association Guarantee Act" had 446 members who fed 9,704 cattle and 7,068 sheep, utilizing a new credit of \$1,178,834.14.

In addition to the above, 2,411 cattle and 1,412 sheep were carried over by 181 members from the 1951-52 season into the 1952-53 season.

Lamb feeders secured good profits on their 1952-53 operations because of a good spread between the cost per pound of feeder lambs and the selling price of fat lambs. However, most cattle feeders' profits were very small due to a narrow margin.

Total loans outstanding under the 1952-53 guarantee as at September 1st, 1953, amounted to \$18,489.83.

Total loans, including interest, outstanding under the 1951-52 guarantee at September 1st, 1952 amounting to \$493,827.09 were reduced to \$167,355.04 as at September 1st, 1953.

FEEDER ASSOCIATION OPERATIONS 1952-53 SEASON

Association	Members	Cattle	Sheep	Amount of Credit
ANDREW-WILLINGDON Feeders' Ass'n., Ltd., Andrew	9	171	.	\$ 20,030.43
BATTLE RIVER Feeders' Ass'n., Ltd., Camrose	14	311	...	30,283.23
BOWDEN Feeders' Ass'n., Ltd., Innisfail	11	271	...	31,399.87
BOW VALLEY Live Stock Feeders' Ass'n., Ltd., Brooks	24	807	744	86,073.00
CARSTAIRS Live Stock Feeders' Ass'n., Ltd., Carstairs	18	443	.	65,420.78
CENTRAL ALBERTA Live Stock Feeders' Ass'n., Ltd., Lacombe	19	444	171	53,794.31
EAGLE HILL Live Stock Feeders' Ass'n., Ltd., Olds	26	557	117	67,319.57
EAST BOW VALLEY Live Stock Feeders' Ass'n., Ltd., Brooks	27	748	519	88,271.12
EAST CENTRAL Feeders' Ass'n., Ltd., Lacombe	14	407	57	45,719.20
EAST OLDS Live Stock Feeders' Ass'n., Ltd., Olds	8	117	...	11,543.27
GARDEN CITY Feeders' Ass'n., Ltd., Magrath	13	260	228	36,671.23
HORSE SHOE LAKE Feeders' Ass'n., Ltd., Innisfail	8	221	...	27,974.69
INNISFAIL Feeders' Ass'n., Ltd., Innisfail	6	131	...	16,114.18
KNEEHILL VALLEY Feeders' Ass'n., Ltd., Innisfail	34	715	...	89,783.90
MANNVILLE Live Stock Feeders' Ass'n., Ltd., Mannville	22	397	...	38,792.46
MARWAYNE Live Stock Feeders' Ass'n., Ltd., Marwayne	21	436	.	52,815.50
PONOKA Feeders' Ass'n., Ltd., Ponoka	21	347	42	41,003.80
RAVEN Feeders' Ass'n., Ltd., Innisfail	19	379	...	46,739.52
RAYMOND-MAGRATH Feeders' Ass'n., Ltd., Magrath	12	252	385	34,607.91
SOUTH SLOPE Live Stock Feeders' Ass'n., Ltd., Brooks	21	663	1,279	81,401.81
TABER Feeders' Ass'n., Ltd., Taber	8	184	572	30,759.32
TILLEY-ROLLING HILLS Live Stock Feeders' Ass'n., Ltd., Brooks	39	581	2,954	85,088.76
VERMILION and DISTRICT Live Stock Feeders' Ass'n., Ltd., Vermilion	16	271	...	30,103.87
WAINWRIGHT-EDGERTON-CHAUVIN Feeders' Ass'n., Ltd., Edgerton	29	504	...	56,309.94
WESTLOCK Feeders' Ass'n., Ltd., Westlock	7	87	...	10,812.47
	446	9,704	7,068	\$1,178,834.14

FEEDER ASSOCIATION OPERATIONS 1938-39 TO 1952-53

Feeding Season	Associations	Members	Cattle	Sheep	Credit
1938-39	6	180	9,239	19,187	\$ 368,421.45
1939-40	12	351	16,248	20,287	775,125.21
1940-41	12	451	17,056	37,863	954,489.50
1941-42	15	408	14,945	41,157	1,117,186.08
1942-43	17	437	13,279	31,452	1,092,768.43
1943-44	16	395	11,639	53,768	1,191,641.50
1944-45	15	257	7,968	46,537	834,347.71
1945-46	15	319	9,556	60,845	1,098,291.77
1946-47	13	245	7,057	37,036	729,447.90
1947-48	13	239	8,088	26,241	859,922.29
1948-49	13	212	4,784	13,020	837,732.21
1949-50	10	237	4,978	8,948	622,759.22
1950-51	11	291	5,615	4,381	917,400.70
1951-52	26	642	11,236	6,750	2,328,596.59
1952-53	25	447	9,704	7,068	1,178,834.14
		5,111	151,392	414,540	\$14,907,074.69

SHEEP AND SWINE

Swine

Swine producers experienced a very profitable year in 1953. In general, hog prices remained high throughout the year. The Canadian hog-barley ratio was much wider than in 1952 and in very favourable relationship when compared to the U.S.A. hog-barley ratio.

The appearance of vesicular exanthema in several states in the U.S.A. required placement of embargo by the Canadian Health of Animals Branch against U.S. pork imports to Canada—this situation had a desirable effect on hog markets in this country. Canada exported less than 20,000 live hogs to the U.S. Reports from exporters on Alberta hogs indicate that more attention must be given to quality and type of hogs offered on this market if producers wish to retain strong and favourable comparative advantage on basis of quality.

During 1953, Canada exported to all countries close to 50 million pounds of pork products—about six times more than last year.

Alberta hog prices at the Edmonton market fluctuated from a low of \$21.25 per cwt. Grade A carcass early in February to a high of \$34.00 during the latter part of August and the first part of October. The average for the year on Grade A carcass grades was approximately \$30.00 per cwt.—Dominion Government bonus of \$2.00 per hog not included.

The quality of hogs has not improved from that of 1952. Only approximately 20 per cent of Alberta hogs Graded A carcass in 1953 compared to 22 per cent in 1952. Disregard for carcass quality by breeders and commercial hog producers is likely to prove costly and embarrassing when substantially larger number of our surplus hogs will be offered for sale on export markets.

There appears to be several reasons for lowering of the quality of hogs; one is insufficient price spread between top grades in comparison with the market values placed on B₂ and C grade hogs. Another is the practice of cross breeding where very little or no attention is given to type and quality of the breeding stock used. The predominant reason given is to obtain hybrid vigour. Short, thick and lardy type boars of the various colored breeds are often used on cross bred or very ordinary Yorkshire sows resulting in thick, deep fronted and round rib pigs carrying excess fat. Other contributing factors are, increased number of hogs on self feeders;

the abundance of feed grains; and a general failure to provide a sufficiently high protein level during the growing stage.

Present indications are for further increase in swine production. Demand for breeding stock from regular producers and from grain growers starting in hogs for the first time far exceeds available supplies.

Pure bred breeders had a most profitable year. Prices exceeded all expectations. Calgary sale boars averaged \$125.00 compared to \$78.03 in 1952. The Edmonton sale was equally strong. Yorkshire boars averaged \$104.61 compared to \$70.69 in 1952. Top prices for Yorkshire boars at Calgary and Edmonton were \$240.00 and \$200.00 respectively and for sows \$200.00 and \$250.00. Top prices for Calgary Tamworths were \$190.00 for a boar and \$135.00 for a gilt. At Edmonton, top Tamworth boar sold for \$165.00 and a gilt for \$125.00.

THE SWINE IMPROVEMENT POLICY

The Swine Improvement Policy continued to operate during the year. As in the past, eligible applicants may purchase at cost, one boar in each two-year period and have express shipping charges prepaid to their nearest railway shipping point. Those who do not qualify may purchase boars of bacon breeds under the Live Stock Listing Bureau.

Placements under the Swine Improvement Policy and Live Stock Listing Bureau were as follows:

	Live Stock Listing Gilts	Listing Boars	Impr. Policy Boars	Total Boars
1948	22	14	120	134
1949	19	20	145	165
1950	8	4	119	123
1951	5	5	129	134
1952	15	6	135	141
1953	6	16	107	123

The 1953 totals include 8 Tamworth boars.

TABLE 1
ALBERTA SWINE POPULATION—JUNE SURVEY

1949	847,100
1950	809,700
1951	1,088,000
1952	1,170,000
1953	1,180,000

TABLE 2
ALBERTA HOG GRADING FOR YEARS 1949 to 1953 INCLUSIVE

	1949 %	1950 %	1951 %	1952 %	1953 %
Grade A	22.13	25.00	25.12	21.43	19.90
Grade B	57.22	56.32	43.04	42.86	44.70
Grade C	6.86	6.28	3.77	3.52	4.00
Light	0.95	1.40	7.12	7.87	6.80
Grade D	0.40	0.56	6.69	8.81	11.90
Heavy	2.92	2.03	1.06	1.18	1.20
Extra Heavy	2.69	1.77	0.51	0.48	0.05
Injured	1.05	0.04	3.00	3.74	3.00
Rgl. ...	0.56	0.51	2.56	3.32	2.40
Stags ...	0.45	0.45	0.05	0.04	0.05
Sows	5.77	5.64	0.54	0.53	0.05
			0.49	0.41	0.05
			6.05	5.81	4.60

DEPARTMENT OF AGRICULTURE

TABLE 3

EDMONTON SPRING SWINE SALE

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Yorkshire gilts	59	\$165.43	108	\$ 82.13	72	\$128.68
Tamworth gilts	11	128.19	8	102.50	7	109.29
Yorkshire boars	30	146.33	51	70.69	41	138.90
Tamworth boars	9	118.33	13	71.54	7	100.35

TABLE 4

EDMONTON FALL SWINE SALE

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Yorkshire sows	129	\$ 90.00	127	\$ 65.30	162	\$ 91.09
Tamworth sows	7	95.00	9	72.22	10	89.50
Yorkshire boars	107	117.31	115	78.06	136	104.61
Tamworth boars	15	99.00	19	87.60	24	121.54
	258	\$101.99	270	\$ 71.91	332	\$ 98.81

TABLE 5

CALGARY FALL SWINE SUMMARY

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
SOWS:						
York. Oct.-Apr.	94	\$ 69.75	62	\$ 67.74	87	\$ 83.45
York. Prev. Oct.	1	75.00	8	75.31	1	200.00
Tam. Oct.-Apr.	5	60.00	5	53.50	6	105.83
Berk. Fem.	4	56.25	2	52.50		
Female Total	104	\$ 68.62	77	\$ 67.21	94	\$ 86.12
BOARS:						
York. Oct.-Apr.	78	\$ 81.41	54	\$ 79.81	71	\$114.58
York. Prev. Oct.			2	67.50	2	165.00
Tam. Oct.-Apr.	20	95.63	13	73.84	12	167.92
Tam. Prev. Oct.			1	60.00		
Berk. Boar	2	73.75	1	75.00	4	161.25
Hamp. Boar	1	70.00				
Boar Total	101	\$ 83.96	71	\$ 78.03	89	\$125.00
SWINE TOTAL	205	\$ 76.28	148	\$ 72.40	183	\$105.03

SUMMARY OF ALBERTA HOG CARCASSES GRADED, 1949-1953

	"A"	"B1"	"B2"	"B3"	"C"	"D"	Light	Heavy	Extra Heavy	Injured	Ridg- lings	Stags	Sows	No.	Total Sales Value
1949	204,624	431,912	33,473	63,815	63,414	3,702	8,752	26,989	24,912	401	5,175	4,121	53,427	924,717	\$44,533,403.01
1950	240,179	443,351	47,375	50,380	60,294	5,362	13,436	18,535	16,958	370	4,856	4,374	54,138	960,608	\$42,305,176.00
1951	240,605	412,267	36,098	68,194	64,057	4,888	10,121	28,703	24,558	446	5,188	4,727	57,921	957,773	\$49,411,433.00
1952	291,912	583,855	47,949	107,172	119,983	6,547	16,031	50,904	45,262	522	7,248	5,570	79,187	1,362,142	\$52,674,108.00
1953	285,359	640,296	56,566	97,929	169,898	7,298	17,075	43,138	34,007	257	7,728	6,821	66,066	1,432,438	\$66,049,716.18

Sheep

The price stability of market lambs throughout the year 1953 inspired confidence in the sheep industry amongst Alberta farmers. Small farm flocks are more numerous than they were three years ago and steadily increasing in the north central and northern areas of the Province. Demand for suitable commercial breeding ewes exceeded available supplies. It is expected that the continued campaign under the guidance of the pest control office for the control of coyotes and other predators will result in further interest in sheep production.

Feedlot operators found lamb feeding profitable this year. There was a spread of over five cents per pound between ingoing and outgoing prices of market lambs. Good fat lambs average twenty-one cents. Feeder lambs went into feedlots at approximately \$16.00 to \$18.00 per cwt., and feeder ewes at \$4.00 to \$5.00 per cwt. Preliminary figures indicate approximately 48,000 lambs and 2,500 ewes in feedlots this winter.

Wool clip was lower in 1953. This year fleeces averaged 8.2 pounds compared to 9.0 pounds in 1952. Depending upon quality wool prices remained approximately at 1952 levels—30 to 45 cents (average 38 cents) for domestic and 38 to 57 cents (average 47 cents) per pounds for range wool.

Wool grading regulations continue to function smoothly. This work is under the supervision of Dominion Government wool graders.

The Abbe 4 H Club completed a very successful year with twenty-five members participating at the Achievement Day. This Branch placed two pure bred Suffolk rams with this Club to assure greater uniformity in type and quality of club lambs in the coming year.

Fall sheep sales at Calgary and Edmonton were as high as in 1952. The Calgary sale lacked the usual buying support from American sheep men, consequently ewe averages were about \$4.00 lower per head and rams about \$6.00 lower. The Edmonton sale lacked local support to the extent that quite a large number of rams which graded "commercial" went through the ring without a bid. Average for the Edmonton ewes was \$10.00 per head more than last year. The rams, on the other hand, were about \$5.00 less per head.

Six sheep shearing and management field days were held during June. This work was carried out in co-operation with the University of Alberta, the Provincial Sheep Breeders' Association, and the Dominion Production Services. These were "working" field days where shearing, trimming, treating for worms, spraying for ticks, castrating and docking was demonstrated. Many of those in attendance took part in each operation. Several sheepmen travelled one hundred miles to these field days. Present indications and bookings indicate increased demand for this type of service in the coming year.

THE SHEEP IMPROVEMENT POLICY

The Sheep Improvement Policy continued to serve the needs of small sheep men. Those who are unable to attend one of the regular sheep sales may obtain at cost, one or two rams in each

two-year-period under this Policy. Eligible applicants qualify for prepayment of express shipping charges. Those who do not qualify may obtain rams and ewes under the Live Stock Listing Bureau.

The total of rams and ewes placed under these policies are listed hereunder:

	Live Stock Listing Bureau		Impr. Policy	Total
	Ewes	Rams	Rams	Rams
1950	..	..	21	21
1951	..	1	52	53
1952	36	2	38	40
1953	33	2	28	30

Placements consisted of , 5 Columbia, 16 Suffolk, 7 Hampshire, 1 Cheviot and 1 Romnelet.

TABLE 1
ALBERTA SHEEP POPULATION—JUNE SURVEY

1946	666,800	1950	414,500
1947	613,800	1951	330,500
1948	448,600	1952	387,000
1949	441,800	1953	432,000

TABLE 2
ALBERTA COMMERCIAL SHEEP MARKETING AND VALUES

Year	Stock Yards	Plants	Direct Export	To Country Points	Total	Value
1948	49,117	143,268	23,347		215,732	\$3,063,531.85
1949	45,941	91,177	28,032	7,162	172,312	2,969,056.98
1950	36,520	59,283	68,323	4,051	168,177	3,745,302.00
1951	36,062	51,658	5,044	4,160	96,924	2,674,386.00
1952	43,749	84,862	87	4,388	133,086	2,551,258.62
1953	33,101	73,257	822	5,343	112,523	1,912,891.00

TABLE 3
EXPORT OF PURE BRED SHEEP FROM ALBERTA TO U.S.A.

Year	No. of Head
1950	1,197
1951	700
1952	44
1953	316

TABLE 4
CALGARY SUMMER SALE OF STUD RAMS AND EWES

	RAMS			EWES		
	No. Sold	Av. Price	Top Price	No. Sold	Av. Price	Top Price
1952						
Suffolk (yrlds.)	5	\$ 77.00	\$ 135.00	6	\$149.17	\$290.00
Suffolk (L)	8	380.63	1,050.00	6	114.17	150.00
Hampshire (Yr.)	2	50.00	50.00			
Hampshire (L)	1	60.00	60.00	5	57.00	60.00
1953						
Suffolk (Yrlds.)	8	97.50	325.00	11	118.63	325.00
Suffolk (L)	8	390.62	850.00	7	128.57	225.00

No Hampshires offered in this sale.

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TABLE 5
CALGARY PURE BRED SHEEP—FALL SALE

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Hampshire Ewes (1 Yr.)	22	\$ 65.27	1	\$100.00	15	\$ 43.30
Hampshire Ewes (L)	5	71.60	5	53.00	1	70.00
Suffolk Ewes (1 Yr.)	93	55.59	41	62.56	53	54.15
Suffolk Ewes (L)	67	68.73	41	55.00	66	47.54
Southdown Ewes (1 Yr.)	4	53.75	8	34.06	5	36.00
Cheviot Ewes			26	35.96	1	50.00
No. Coun. Cheviots			1	155.00	1	35.00
	191	\$ 61.70	123	\$ 53.23	142	\$ 47.99
Hampshire Rams (1 Yr.)	18	\$ 70.14	17	\$ 64.56	12	\$ 63.54
Hampshire Rams (L)	31	60.32	9	82.78	29	57.84
Suffolk Rams (1 yr.)	38	76.38	42	53.21	30	61.75
Suffolk Rams (L)	151	66.67	53	60.09	83	67.53
Corriedale Rams	9	155.55	5	81.00	9	111.94
Cheviot Rams (1 yr.)	18	37.22	11	37.27	10	47.75
Southdown Rams (L)	8	48.75	3	38.33	2	47.50
No. Coun. Cheviots	2	137.50	8	59.06	9	57.50
TOTAL	275	\$ 68.50	148	\$ 58.55	184	\$ 64.41
Grade Ewes	76	\$ 35.66	50	\$ 21.88	93	\$ 15.53

TABLE 6
EDMONTON PURE BRED SHEEP—FALL SALE

	1951		1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Suffolk Ewes	41	\$ 70.48	51	\$ 47.44	46	\$ 54.07
Oxford Ewes	2	43.75	2	20.00		
Shropshire Ewes						
Cheviot Ewes	2	65.00	3	41.60	3	29.16
Hampshire Ewes	1	57.50	14	27.50	1	35.00
	46	\$ 78.16	70	\$ 42.43	50	\$ 52.20
Cheviot Rams	7	\$ 67.85	6	\$ 52.89	7	\$ 48.92
Suffolk Rams	86	80.20	76	54.87	75	48.35
Oxford Rams	4	56.25	6	55.83	1	35.00
Southdown Rams	2	70.00	2	30.00	2	52.50
Hampshire Rams	7	74.64	16	51.79	19	51.05
TOTAL	106	\$ 77.26	106	\$ 53.86	104	\$ 47.16

TABLE 7
CANADIAN EXPORT OF SHEEP AND LAMBS

	To Great Britain No.	To United States No.	Total Export No.
1949		40,863	41,410
1950		\$ 890,715	\$ 897,800
1951		97,140	87,648
1952		1,939,558	1,952,132
1953		31,387	31,727
		1,072,332	1,078,406
		357	611
		14,323	20,140
		2,004	2,347
		140,267	145,910

TABLE 8
CANADIAN EXPORT OF MUTTON AND LAMB

	To Great Britain No.	To United States No.	Total Export No.
1949		3,601,100	3,955,900
1950		\$1,551,822	\$1,709,109
1951		2,665,800	2,760,700
1952		1,346,555	1,402,215
1953		2,677,700	2,737,200
		11,100	46,300
		4,527	30,307
		2,900	28,664

TABLE 9
CANADIAN IMPORTS OF MUTTON AND LAMB

Imported from:	1949	1950	1951	1952	1953
United Kingdom	1,450	3,985	7,660	2,270	5,900
United States	26,425	42,249	51,877	86,843	1,796,700
Australia		428,431	1,839,748	980,281	989,737
New Zealand		11,328	1,554,839	1,422,431	1,952,752
Other Countries			54,080	169,524	
TOTAL	27,875	485,993	3,499,204	2,661,349	4,745,089

TABLE 10
ALBERTA SHEEP AND LAMB MARKETINGS

	LAMBS		Bucks	Feeders	SHEEP	
	Good	Common			Good	Common
1951	62,770	4,827	1,620	9,059	6,250	3,194
1952	93,451	15,615	930	7,141	8,127	3,347
1953	81,108	10,287	1,813	5,994	5,106	2,050

OUTWARD MOVEMENT TO

	Public Stock Yards	Packing Plants	Direct on Export	Country Points in other Prov.	TOTAL	TOTAL INWARD MOVEMENT
1951	36,062	51,658	5,044	4,160	96,924	18,548
1952	43,749	84,862	87	4,388	133,086	14,848
1953	33,101	73,257	822	5,343	112,523	14,296

This office was responsible for many farm visits in dealing with various swine and sheep problems from the standpoint of management, feeding, selection and housing.

Assistance by way of judging at several fairs was also given.

Some time and assistance was given during early spring to Rabies control work in the Peace River area. A number of meetings were held and the whole area organized in coyote control work.

Considerable time was given to live stock meetings and to the preparation of various material on live stock matters. The following table indicates the number of meetings held and attendance at these meetings:

Year	No. Meetings	Total	Average Attendance
1950	35	2,170	62
1951	34	2,909	85
1952	35	3,173	90
1953	40	1,826	45

HORSES

Horse breeding remained at a low ebb, although there was evidence of some alarm over the scarcity of good useful horses. However, the trend to mechanization has continued and no doubt at this time still largely overshadows any possibility of any real renewal of interest in horse breeding.

One sale was held at Calgary in the spring at which 552 horses were sold at an average price of \$70.64. This compared to 399 head sold in 1952 at an average of \$79.40 and reflected the continuing trend to lower prices.

Processing plants still operated at Edmonton and Calgary, but it became increasingly difficult to obtain horses.

The June 1st survey showed 222,000 horses on farms as compared to 239,700 at June 1st, 1952.

ROYAL WINTER FAIR, TORONTO

Eleven carloads of Alberta live stock were shipped to the twenty-fifth Royal Agricultural Winter Fair held in Toronto on November 13th to 21st. The shipment included 22 horses, 46 beef breeding cattle, 15 market cattle, 22 dairy cattle, 12 swine and 18 sheep from 47 exhibitors.

The shipment was handled by the Canadian Pacific Railways with assembly points at Edmonton and Calgary.

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Live stock was selected by representatives appointed by the Alberta Live Stock Breed Associations. The Alberta Department of Agriculture paid decking and feed costs in connection with the shipment. The freight costs were borne seventy-five per cent by the Dominion Department of Agriculture and twenty-five per cent by the Provincial Department.

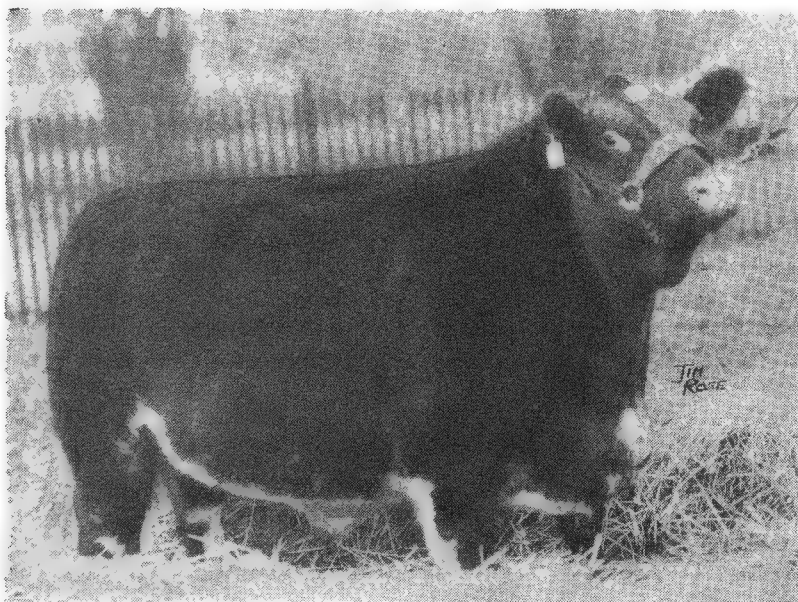
Mr. L. M. Rye acted as supervisor of the shipment and reported a very satisfactory run with ideal weather conditions for shipping both ways.

The following table shows the prizes won by Alberta:

	Horses	Cattle	Sheep	Swine	Total
Grand Champion	1	2	.....	.....	3
Reserve Grand Champion .....	.....	1	.....	1	2
Senior Champion .....	.....	.....	2	.....	2
Reserve Senior Champion .....	.....	2	.....	1	3
Junior Champion	1	2	.....	.....	3
Reserve Jr. Champion	1	.....	.....	1	2
Championships	1	2	2	.....	5
Reserve Championships	1	2	.....	2	5
1st Prize	2	13	2	2	19
2nd Prize	3	13	1	1	18
3rd Prize	3	6	2	2	13
Other Prizes	13	65	9	9	96
	26	108	18	19	171

The Grand Champion Percheron Stallion was exhibited by Wm. K. Russell, Edmonton; the Grand Champion Hereford bull by Warren Smith, Olds, and the Grand Champion Steer by E. F. Noad, Claresholm.

The fifteen head of market cattle were well received by the judge and took four firsts, three seconds, four fourths and two fifths. Of the four firsts received, the Shorthorn steer exhibited by E. F. Noad went on to win the Grand Champion award. The Hereford steer of C. O. Dench, Calgary, went on to win the Reserve Champion Hereford ribbon.



Grand Champion Steer, 1953 Royal Winter Fair, Toronto. Bred by Claude Gallinger, Tofield. Fed and Exhibited by E. F. Noad, Claresholm.

Seven Sale of Stars were held in connection with the Royal. Sale results are listed in the following table:

	1952		1953	
	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn (Scotch)	38	\$ 844.74	33	\$ 978.00
Hereford	54	732.41	53	588.00
Aberdeen Angus	36	1,570.14	49	803.00
Dual Purpose Shorthorn	28	501.00	23	340.00
Ayrshire	48	439.00	36	445.00
Jersey	45	1,079.00	43	625.00
Holstein			35	2,129.00

THE STOCK INSPECTION ACT

Heavier marketings over the entire year with peak runs of butcher and feeder cattle in the fall months, taxed the inspection staffs to capacity at times. A total of 650,793 inspections into markets were made as compared to 517,134 head in 1952, for an increase of 25.8 per cent over the previous year. Inspection of cattle going back to feedlot, on which buyers were given brand clearances totalled 80,356 head.

The proceeds of sale of 815 cattle and 1 horse were held up pending further investigation of ownership. The proceeds of sale of 53 cattle were forwarded to the Live Stock Commissioner's office for final determination of rightful ownership.

Close co-operation has been maintained between the R.C.M. Police and live stock inspectors.

During the year arrangements were made for the Saskatchewan Department to carry out inspection of all Alberta cattle on the Winnipeg stock yards and a full time Alberta inspector was placed at the Lloydminster stock yards to inspect cattle of Alberta and Saskatchewan origin marketed at that point. Mr. C. E. Franklin, who was previously employed by this Department at Winnipeg, transferred to the Saskatchewan Department and is now resident Saskatchewan inspector at that point.

Arrangements were also made to inspect stock at sales at Red Deer and Olds by a deputy stock inspector located at Red Deer.

A number of convictions were obtained for cattle theft. These were mainly at country points which indicates that inspection at all main market centres tends to keep those markets comparatively free from delivery of stolen cattle.

THE BRAND ACT

Interest remained high in the registration of new brands. It is increasingly evident however that as more and more of the old time cow men pass out of the picture, a poorer job of branding is being done. This factor adds immeasurably to the difficulties encountered by brand inspectors.

During the year, 1,844 new brands were issued, 1,746 cattle, 95 horse, 2 poultry and 1 sheep. A total of 268 transfers were registered. A total of 4,742 brands were renewed, made up of 3,203 cattle, 681 horse, 2 poultry and 5 sheep.

Strays, searches and certified extracts numbered 154.

Butcher and Hide dealers' licenses issued numbered 429, making a total of 7,437 transactions made in the Brand Recorder's office.

Mr. H. S. McIntrye who has given valuable service as Brand Recorder, retired in November and his position was taken by Mr. Harry Bauer.

During the year, the re-writing of master books K and T were completed. Good progress was made in the work of compiling a new brand book.

The approximate number of brands in good standing at the end of the year was as follows:

	1950	1951	1952	1953
Cattle	22,231	23,928	25,385	27,100
Horse	6,800	6,858	6,900	6,950
Poultry	26	22	25	26
Sheep	18	19	18	19
Fox	17	17	12	12

THE ALBERTA LIVE STOCK AND LIVE STOCK PRODUCTS ACT

During the year, 651 live stock dealer licenses were issued; 501 to dealers and 150 to dealer's agents. Some licenses were cancelled due to infractions of the regulations and a number of applications were refused.

Licenses were issued to 11 wool dealers and collectors and 5 wool warehouses.

A number of investigations of complaints from live stock shippers were investigated under authority of this Act.

THE IMPROVEMENT DISTRICT STRAY ANIMALS ACT

This is a completely new Act which came into effect on July 1st and replaces the old Domestic Animals (Unorganized Territory) Act. This Act was devised to simplify the process of handling stray animals through pounds and has largely overcome the previous difficulty of dealing with horses that had little or no value. New provisions of this Act which allows the poundkeeper \$10.00 for useless or unsaleable animals impounded, has greatly reduced the number of resignations received from poundkeepers.

A number of new pound districts were established and alterations made in a number of existing pounds.

THE PURE BRED SIRE AREA ACT

During the year enforcement action was undertaken in the existing pure bred sire areas comprised of the Municipal Districts of Athabasca and Vermilion Valley. One prosecution was made and conviction obtained in the Athabasca area.

There was considerably more activity in the placement of pure bred bulls through the Cattle Improvement Policy and the Dominion Bull Loan Policy, in these areas than in adjacent territories.

A start in the circulation of petition for a pure bred sire area in the County of Ponoka was made and interest from other areas has shown decided increase.

During the year excellent co-operation was received from members of the R.C.M. Police in matters of enforcement and investigation. A study of the forest reserve area west of High River, Nanton and Pincher Creek made by this Branch in conjunction

with the R.C.M. Police, provided valuable information regarding cattle movements in that area.

Assistance from the Highway Traffic Board Inspectors in enforcing regulations pertaining to truck movement of stock was continued.

The co-operation and assistance obtained from these two groups as well as that of the various live stock associations, breed associations, exhibitions and the live stock trade in general is greatly appreciated and hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner

L. M. Silcox, Supervisor, Dairy Factory Inspection

J. B. Linneboe, Supervisor, Dairy Branch Laboratory

R. P. Dixon, Supervisor, Dairy Cattle Improvement

B. J. McBain, Supervisor, Dairy Cost Study

L. H. Arnold, Supervisor, Frozen Food Locker Plants

A. F. Bennett, Dairy Statistician

GENERAL REVIEW

The activities of the Dairy Branch have been strictly concerned with the promotion and development of the Dairy and the Frozen Food Locker industries. This report indicates the trend of business activities for these two industries during 1953 as well as the extent of services rendered by the various sections of this Branch.

Following a period of nine years during which milk production was for the most part downward, this situation was definitely reversed in 1953 with total milk production amounting to 1,367,253,000 lbs., an increase of 5.4% over revised figures for the previous year. Less competition from other farm enterprises was the principal reason for greater interest in dairying. This was brought about by declining beef prices and the limited marketing of grain on a strict quota basis.

The number of cows reported for milk purposes at June 1st, 1953, was 289,000, an increase of 9,000 over the corresponding date of 1952. The production per cow, calculated on the basis of total milk divided by the number of cows kept for milk purposes amounted to 4,731 lbs. of milk and 165.6 lbs of butterfat. This is an increase of 98 pounds of milk and 3.2 pounds of butterfat over the recently revised figures for the previous year. Pasture conditions were again above normal and the fact that harvesting was completed early, stubble fields were used to supplement grass pastures. The first cutting of hay was subjected to unfavorable weather conditions and much spoilage was reported.

An increased number of cows under test with a greater average production highlighted the Dairy Herd Improvement work.

Milk utilization in the fluid form while showing an upward trend did not keep pace with production increases, consequently manufactured products such as creamery butter, factory cheese and ice cream all recorded substantial increases.

The total value of all manufactured and processed products plus the value of that portion of milk and by-products retained on farms for human consumption and animal feed amounted to approximately forty-nine million dollars. The unit prices for creamery butter, factory cheese and concentrated products showed

NOTE: Production, utilization and value figures used in this report have been revised on the basis of information secured from the 1951 census. The revision covers only those years from 1950 to 1953, therefore no attempt should be made to compare figures for this period with those of previous years.

a slight decline, consequently the high total value was entirely due to greater production.

Creamery butter quality, as measured by the percentage qualifying for first grade, showed a slight improvement and exhibits of creamery butter again took a large percentage of prizes and premier honours at the leading Canadian exhibitions.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1953

The following table shows the quantity, farm value and utilization of Alberta milk production during 1953 in comparison with 1952.

	Year	Pounds	Milk Equivalent Pounds	Percent of Total Milk	Price	Value
Butterfat for Creamery Butter	1953	24,594,000	701,836,000	51.3	\$.602 per lb.	\$14,801,000
	1952	22,671,000	646,940,000	49.9	.603 per lb.	13,679,000
Farm Dairy Butter	1953	3,043,000	71,206,000	5.2	.56 per lb.	1,704,000
	1952	3,457,000	80,894,000	6.2	.56 per lb.	1,936,000
Milk and Butterfat for Ice Cream (Milk basis)	1953		41,701,000	3.1	2.41 per 100 lbs.	1,006,000
	1952		40,128,000	3.1	2.45 per 100 lbs.	985,000
Milk for cheesemaking and concentrating	1953		67,698,000	5.0	2.41 per 100 lbs.	1,637,000
	1952		60,884,000	4.7	2.76 per 100 lbs.	1,678,000
Milk and Cream Fluid consumption (Milk basis)	1953		257,547,000	18.8	4.30 per 100 lbs.	11,076,000
	1952		240,628,000	18.6	4.23 per 100 lbs.	10,175,000
Milk Farm Home Consumed	1953		130,993,000	9.6	2.40 per 100 lbs.	3,144,000
	1952		138,123,000	10.6	2.40 per 100 lbs.	3,315,000
Fed Farm Animals	1953		96,272,000	7.0	2.40 per 100 lbs.	2,311,000
	1952		89,566,000	6.9	2.40 per 100 lbs.	2,150,000
Kept on Farms Skimmilk from Creamery Butter and Skimmilk and Buttermilk from Dairy Butter	1953	682,640,000			.32 per 100 lbs.	2,185,000
	1952	645,347,000			.32 per 100 lbs.	2,066,000
Total	1953		1,367,253,000	100.0		\$37,864,000
	1952		1,297,163,000	100.0		35,984,000

The following table shows the production and value of dairy products manufactured and processed in Alberta:

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS 1953 (Preliminary) COMPARED TO 1952

		Quantity	Price	Value
Creamery Butter, lbs.	1953	29,993,000	\$.585 per lb.	\$17,546,000
	1952	27,647,000	.5909 per lb.	16,337,000
Cheddar Cheese, lbs. (including net increase in processing)	1953	2,790,000	.361 per lb.	1,008,000
	1952	2,022,000	.388 per lb.	784,000
Ice Cream, Gallons*	1953	2,453,000	1.65 per gal.	4,047,000
	1952	2,293,000	1.66 per gal.	3,806,000
Fluid Milk Sales, lbs. (including processing charges)	1953	194,599,000	5.76 per 100 lbs.	11,215,000
	1952	181,453,000	5.75 per 100 lbs.	10,425,000
Cream as Milk, lbs. Fluid Sales (including processing charges)	1953	62,948,000	4.36 per 100 lbs.	2,745,000
	1952	59,175,000	4.13 per 100 lbs.	2,445,000
Skimmilk and Buttermilk Sales for Human Consumption (including processing charges)	1953	9,746,000	3.21 per 100 lbs.	313,000
	1952	8,902,000	3.21 per 100 lbs.	286,000
Skimmilk, Buttermilk, lbs	1953	34,345,000	.32 per lb.	110,000
	1952	30,813,000	.32 per lb.	99,000
Whey, lbs.	1953	23,026,000	.16 per lb.	37,000
	1952	16,682,000	.16 per lb.	27,000
Miscellaneous Manufactured Products**	1953			2,479,000
	1952			2,575,000
Total	1953			\$39,500,000
	1952			36,784,000

*Mix converted to Ice Cream on basis of 100% overrun.

**Includes concentrated milk products, Cottage Cheese, Whey Butter and Yoghurt.

DAIRY FACTORY INSPECTION AND INSTRUCTION SERVICE

There were 129 dairy manufacturing plants in operation during 1953. Of this number 72 are single product plants (34 butter, 8 cheese, 1 milk powder, 29 pasteurized milk and cream.) The remaining 57 plants manufacture and/or process combinations of more than one product.

To effect a more complete service, a part time inspector who is also a staff member of the Fairview School of Agriculture, was detailed to carry out inspection duties for the summer months at seven dairy plants located in the Peace River area. While this arrangement does not permanently alter the previously established boundaries of inspectorates, it constitutes a similar working plan to that which led to the creation of an inspectorate at Vermilion in 1950. Following the retirement of Mr. I. Stewart-Irvine, May 31st, Mr. D. J. Prince was appointed to the inspection staff with headquarters in Calgary. Otherwise, the inspection districts and staff remained essentially the same as during the previous year.

Inspections made on all dairy plants totalled 1,546. A summary of routine checks on grading and testing at all types of plants shows that 70,994 shipments of cream were officially graded and 26,173 official Babcock tests were made on milk and cream purchased. Increased use of quality tests of raw milk by inspectors and by plants who are encouraged to adopt grade standards with price differentials is contributing to a greatly improved milk supply. Undoubtedly, this policy will receive consumer support and should result in increased consumption of fluid milk which is the most profitable outlet for producers.

Instruction duties continue to widen as changes and new developments are introduced with respect to equipment and procedures. Increased use of Dairy Branch Laboratory services for chemical and bacteriological analyses of individual and bulk raw milk and finished products has proven most valuable for the information of producers and manufacturers. Besides lifting samples for bacteriological surveys at both butter and milk plants, inspectors use specially provided equipment for the Methylene Blue Reductase and for sediment testing of raw milk. The Reductase test is also being applied to the "Milk Plant Efficiency Competition" which requires that the raw milk supply as well as the finished product be sampled and analyzed regularly.

In cooperation with the District Agriculturist Service the usual extension work of addressing farm gatherings, conducting milk and cream quality competitions and the preparation of quality leaflets was continued.

Experimental Analyses

During the 1953 season a new project was carried out in cooperation with Science Service of the Canada Department of Agriculture. The making of special "washed" and "unwashed" churnings of butter was supervised by inspectors once monthly. Samples were collected and forwarded to Science Service for complete analyses and for determination of keeping quality over specified periods. The duration of this project was carried over a six-month period from June to December. Further cooperation is being extended over the period January to June, 1954, so that

the Chemistry Division of Science Service may continue their studies on chemical and physical nature of milk fat for a full year. Regular butter samples are also being lifted by inspectors at Lethbridge, Calgary and Red Deer for use in research work being conducted by the Department of Dairying, University of Alberta.

An experiment designed to establish grade standards of raw milk being purchased, was conducted during the summer months. This experiment was carried out on milk being received at seven milk plants. A grade pattern was drawn up using the Methylene Blue Reductase Test, the Sediment Test and the senses test to establish grades for individual milk shipments on receipt at the plant. Grades were set on 918 samples and this has served as a valuable guide to prospective institution of purchasing raw milk by a grading system.

In cooperation with the Canadian Salt Co. a new type of salt was introduced for the manufacture of creamery butter. This product known as "fused" salt was distributed to 12 buttermaking establishments, and used in alternate churnings in order that comparisons could be made with the regular salt used at these plants.

Yearly licensing of all those engaged in grading cream and Babcock testing of milk and cream is a regular requirement. It is the duty of each inspector to keep himself well informed on the experience and ability of licensed candidates, before conducting the practical and written examination leading to granting of license. During 1953 there were 256 licenses renewed and 26 new licenses issued.

Check Weighing of Butter and Cheese.

There were 12,595 boxes of butter weighed representing 680,012 pounds of creamery butter compared with 22,749 boxes and 1,278,448 pounds during 1952. This was considerably less than last year owing to fewer offerings being made to the Agricultural Products Board.

A total of 106 boxes of cheese were check weighed in shipments totalling 706 boxes.

Butter and Cheese Quality

Federal grading totals show that buttermakers have broken the 1952 record for first grade butter with a percentage of 95.5. The percentage of 93 score and better butter increased by almost 5% over the previous year. Undoubtedly this high quality has been a factor in increased consumption of butter during the past year in spite of keen competition from substitutes. Cheese grading figures show that 85.6 percent was first grade. Included in this total is 38.6% which graded 93 score and better and thus qualified for a premium payment of over \$11,000.00.

From entries made in butter competitions at five major Canadian Exhibitions, Alberta creameries took a total of 192 prizes. Two grand championships and two silver medals are included in these winnings which completes a most creditable showing. Alberta cheesemakers also came in for their share of the honours by taking 10 prizes, 7 of which were in competition with Canada's best at the Royal Agricultural Winter Fair.

Dairy Plant Changes

The Co-op. Milk Co., Calgary was taken over by the Central Alberta Dairy Pool, Red Deer, as at February 1st and renamed Alpha Milk Co. (Calgary) Ltd. The operation of the Grand Centre Creamery was taken over by K. W. Toppenberg on May 18th. New milk and cream pasteurizing plants were established at Fairview, Grimshaw, Sangudo, Sedgewick, Stettler and Sundre. Similar plants at Cadomin and Strathmore were reported closed during the year. Changes in ownership of the Whitehills Dairy, Red Deer and Davidson's Dairy, Canmore were reported.

With 89 creameries in operation, 3 fewer than in 1952, and a much larger production of butter, the average output per plant increased from 300,000 lbs. to 337,000 lbs.

Only 10 factories manufactured cheddar cheese and with transfers to milk processing plants greatly reduced the average output per plant increased from 202,000 to 279,000 lbs. for an increase of 38 percent.

LABORATORY SERVICE

The extent and nature of the service provided by the laboratory during 1953 is contained in the following table. For sake of comparison corresponding data for 1952 has been included:

	No. of Samples	
	1953	1952
Butter samples for Moulds and Yeasts	3,514	3,668
Water samples from dairy factories	51	47
Bacteriological Creamery Surveys (11 surveys)	88	91
Butter samples for pH	1,633	1,531
Milk samples for Mastitis Control Service	2,121	2,394
Milk Plant Control Service	4,149	2,583
Milk samples for Cow Testing Service	8,935	6,232
Cheese samples for extraneous matter	263	170
Egg Products	432	277
Miscellaneous	384	286
	21,570	17,280

It will be noted that 4,290 more samples were submitted in 1953 than during the previous year. The increase was particularly marked for samples listed for Milk Plant Control and Cow Testing Service.

The change in policy of offering a free laboratory service to country milk plants came into effect during the early part of the year and undoubtedly this resulted in a larger number of samples submitted.

The active participation in the work by the Department of Public Health especially through the Sanitary Inspector at the various health units has also been an important factor in extending the services and in improving the quality of the product supplied by the country milk plant.

The services to the creameries have been many and varied. The sanitary condition under which the butter is manufactured at the creamery is judged by determining the mould and yeast content. The result during the year, was most gratifying in that 81.0% of the churnings examined qualified as "excellent", which is a combined mould and yeast count of not more than 10 per c.c. of butter. As a result the year has been singularly free from butter defects that could be attributed to faulty sanitation. Much credit is due to the plant worker and the dairy inspectors for this accomplishment.

The practice of determining the degree of acidity or pH of the butter was continued. A total of 1,633 samples representing as many churnings were examined and the information thus obtained applied by the buttermaker in his effort to manufacture a uniform product and one having the desired acidity.

The work in connection with the mastitis control program shows a slight decrease from the previous year. The following figures give the rate of infection for samples submitted during the year:

Samples positive 29.3% Samples questionable 9.2% Samples negative 61.5%

Information on the amount and type of infection in each sample, representing all milking quarters in the herd, is entered into a herd record book. These records are made available to the herd owner and the practising veterinarian.

The examination of cheese for extraneous matter, started during 1952, has been continued. According to present standards, the objective is to have all cheese qualify for class 2 or better.

The following data indicates the number of sediment tests on cheese made during the past two years and the classification of these tests in percentage:

Year	No. of vats examined	Classification in Percentage			
		Class 1	Class 2	Class 3	Class 4
1952	170	4.7%	74.1%	19.4%	1.8%
1953	263	8.4%	84.0%	7.2%	0.4%

It is evident from the table that there has been a marked decrease during the year in the amount of extraneous matter present in Alberta cheddar cheese.

The number of milk samples tested for butterfat under the provincial cow testing plans increased sharply during the year as more herds and cows have come under the service.

A growing tendency by the domestic trade to purchase egg products on a grade basis was responsible for a significant increase in the number of egg product samples submitted.

In addition to the foregoing a large number of miscellaneous samples were received during the year, some in connection with butter and ice cream competitions, other samples included milk to be examined for Bangs disease, milk and cream samples for the presence of preservatives, samples of meat for spoilage, etc.

In addition to the above the laboratory has continued to supply the cheese factories with a starter culture twice monthly and dairy plants in general with whatever testing solutions and indicators they may require.

The usual amount of extension work such as addressing spring conferences and plant workers and acting as a consulting agency for the industry has been continued.

DAIRY CATTLE IMPROVEMENT SERVICE

Cow Testing

The work of this division has been greatly expanded during the year under review with 26 more herds and 681 more cows being tested. This has been the largest increase ever recorded in any one year. The following table indicates the steady expansion since the end of the war:

	1946	1949	1951	1952	1953
No. of herds under test	86	101	112	115	141
No. of cows under test	1,145	1,457	1,802	1,901	2,582

Testing centres were in operation at Edmonton, Ponoka, Red Deer and Calgary. The number of cows under test at each centre during the year was, Edmonton 1,196, Ponoka 642, Red Deer 524 and Calgary 220.

Two plans are offered herd owners. Plan I is based on daily weighing and monthly tests while Plan II is based on a record which is computed from the weight of milk during one day each month at which time samples are lifted for butterfat tests. Weights and samples in both plans are taken by the herd owners and the butterfat tests made by officials of the Dairy Branch.

The following table shows the extent to which each plan is used and the average production under each plan as well as the provincial average for all cows under test: The previous year's figures are shown in brackets.

	*Plan I	**Plan II	Total
No. of herds under test	58 (58)	83 (57)	141 (115)
No. of cows under test	812 (754)	1,770 (1,147)	2,582 (1,901)
Ave. No. of cows per herd	14 (13)	21.3 (20.1)	18.3 (16.5)
Herd Ave. on basis of cow years (T)			
No. of cow years	567 (491)	1,145 (768)	1,712 (1,259)
Ave. production of milk lbs.	9,454 (9,391)	9,205 (8,809)	9,287 (9,020)
Ave. production butterfat lbs.	343.1 (341.8)	325.2 (309.1)	331.1 (321.9)
Ave. Test			3.57 (3.57)

*Plan I Daily weighing and monthly tests.

**Plan II Computed records from one day's weighing and monthly tests.

(T) The total number of cows on test during the year is used in determining the herd average, except where new cows are placed on test, or a cow is sold or dies, in these cases only that part of the year which she produces is used.

It will be noted that there are twice as many cows being tested under Plan II as under Plan I. Plan II has increased in popularity every year since it was first offered in 1946.

The average production of cows on test shows an increase of 267 lbs. of milk and 9.2 lbs. of butterfat from 1952. The excellent pasture conditions that prevailed throughout the season including an opportunity to pasture stubble fields late into the fall was chiefly responsible for the increase.

Individual reports were mailed to each herd owner showing the average of his herd together with the average of all cows under test. Pictorial graphs showing the production of each cow were also forwarded to assist in culling, selection, breeding and feeding programmes. A copy of this detailed report was forwarded to all District Agriculturists and those in charge of the testing centres to assist them in carrying out the fieldwork.

Competitions based on the year's records focus attention on the herds having the highest average production in butterfat, and those showing the largest increase over the previous year. The "Greater Average Butterfat" and "Herd Improvement" competitions winners are announced annually at the Alberta Dairymen's Convention.

Certificates of production are given for all cows producing the required standards. A total of 1,071 certificates were issued as compared to 888 in 1952.

The "Honour Roll", listing all herds with 5 cow years or more and who have been on test for a full eight month recorded period with an average of 300 lbs. and over, contained 53 herds and was sent to all herd owners under test. This list contained 9 more herds than in the previous year.

Farm visits to 60 of the herds under test were made during the year. At the time of these visits milk scales were checked, the testing program reviewed and the problems of breeding, feeding and management discussed. In addition to the farm visits a number of the herd owners were contacted at field days and agricultural fairs and meetings.

Dairy Cattle Purchases

The Supervisor cooperated with the Live Stock Branch in securing dairy bulls and females placed under the "Cattle Improvement Policy", and the "Live Stock Listing Bureau" service. A total of 34 bulls were placed under the Cattle Improvement Policy, and assistance given in securing 39 females.

Extension Work

Extension work carried out by the Supervisor included the following: addressing agricultural meetings and field days, judging at fairs and 4H achievement days, and the preparation of farm notes, circulars, leaflets, and radio talks on dairy production problems. Assistance was given in designing and planning several loose-housing dairy barns.

Study was also made of labour saving features for some of the newer housing units put into operation recently. This applies particularly to a loose-housing unit in the Edmonton area which was equipped with a pipe line milker and a separate feeding area.

Dairy Cattle Sales

Farm sales of dairy cattle maintained a firm price throughout the year with a fairly strong demand for a good type dairy cow. The purebred Holstein herds of C. Cox, Calgary and George Smyth, Clover Bar were sold at public auction during the year. The highest price realized at these sales was \$1,100.00 for a three year old heifer.

Artificial Breeding Unit Established

The Edmonton and District Milk and Cream Producers Association realizing the value of high production for successful operations, organized an artificial breeding unit at Edmonton late in 1953. A full time technician has been employed and semen of all the dairy breeds is being received from the breeding centre at Milner, B.C. Service is available to all milk and cream producers in the Edmonton milk shed. Breeding operations started on December 1st, and response to date has been very encouraging.

To realize the full benefits of artificial breeding and more particularly to evaluate different sires, records of production should be kept on all females. This would permit daughter-dam comparisons which would greatly assist those charged with the responsibility of sire selection. As a result of this unit being established a number of new herds will undoubtedly be placed on test. Sufficient equipment and personnel should be provided to assure these herd owners of a complete and satisfactory service.

DAIRY COST AND FARM MANAGEMENT SERVICE

A total of 135 farm accounts were completed, analyzed and reported upon during 1953. An additional 18 farm accounts were carried to different stages but various reasons prevented their completion. On some farms two or more enterprises, which had contributed in a large measure to the farm income, were analyzed and included in the report. This meant that a total of 182 enterprises were analyzed. The following table shows the number of farms and enterprises analyzed and reported upon during 1953, similar figures for 1952 are included for comparative purposes:

Year	Dairy		Beef	Hogs	Poultry	Grain	Total Enter- prises	No. of Farms	No. of Groups Studied
	Milk	Cream							
1953	82	25	5	30	18	22	182	135	9
1952	83	23	5	28	18	20	177	134	9

The fluid milk accounts are collected in seven different areas from Medicine Hat to Edmonton. Approximately 10 percent of the shippers supplying the 4 principal markets are represented by cost accounts. This sample has been completely analyzed but in the case of farms supplying the three other fluid milk markets quick calls were made at farms previously carrying full cost accounts. Information secured from these calls was applied to the basic data previously obtained. Trends in feed and labour costs from the larger area receiving a complete analyses of their records are applied to condition and data in the smaller areas. The fluid milk studies are now entering their fifteenth year and the value of data particularly for farms under continuous study, has been considerably enhanced.

Over fifty farmers comprising some 112 enterprises are being studied in the mixed farm group. These farms are located in the Leduc-Wetaskiwin areas and the third year records will be closed in January, 1954. A report covering the three year period will be attempted on the findings.

Farm operators as well as agencies supplying service and information to farmers are now requesting specific information related to farm operations. These include capital invested in land, buildings, machinery and live stock; basis for rental and share agreements; and the advisability of adopting particular types of farming in specific locations. Undoubtedly the decline in farm prices is causing closer scrutiny of management problems and this has prompted many of these enquiries.

Individual reports on each farm were prepared and returned to farmers cooperating. This afforded an opportunity for each farmer to compare his position and operations with the group average and the high income farms. Assistance in analyzing these reports and relating the data to approved farm practices was freely given by the technical staff. To secure up to date information on milk production costs the service has undertaken to supply interim reports which may indicate that sudden or special conditions are developing. These may warrant price changes at any particular time throughout the year rather than wait until they have been revealed by a yearly report.

Extension work undertaken by this division included, discussions and illustrated addresses in areas being studied, radio talks, news articles and the preparation of statistical reports and summaries.

FROZEN FOOD LOCKER PLANTS

The inspection of locker plants is carried out by the district dairy and creamery inspectors under the direction of the Supervisor of Frozen Food Locker Plants. During the past year there was a total of 1,114 inspections, an increase of 198 over 1952. In addition to plant inspections and the usual amount of instruction work with plant personnel the supervisor attended meetings for the official opening of new plants, conducted meat cutting demonstrations at short courses, and made detailed investigations at several locker plants experiencing difficulty maintaining uniform temperatures. These investigations included the checking of the insulation, vapour barrier and refrigeration equipment. As a result of this rather extensive survey a number of plants will be reinsulated while others will install additional refrigeration equipment. A number of complaints received at the Edmonton office concerning spoiled meat was also investigated. Samples of meat were lifted and tested for flavour both fresh and following cooking to determine the cause and affix the responsibility. Circulars have been printed and forwarded to operators outlining the correct procedure to follow in slaughtering animals and handling of the carcasses. Plans have been made to distribute such material rather widely in those districts where considerable slaughtering is done on the farm.

During the course of the year there were five frozen food locker plants constructed and put into operation. The plant at Stavely was partially destroyed by fire on August 9th. This plant was re-opened for business on December 10th. The animal food storage plant at Faust was completely destroyed by fire in August and it is not likely that this plant will be rebuilt.

Following is a list of frozen food lockers plants which commenced operations during 1953:

Bonnyville Locker Service	Bonnyville
West End Meat and Locker Service	Grande Prairie
Halkirk Quick-Freeze	Halkirk
Swanson and Sons	Marwayne
Pickardville Lockers	Pickardville

All plants in the province were scored by the inspectors for the Merit Award competition. The plants with the highest scores in each district were given a final scoring by officials from the Dairy Branch, Edmonton. The winning plants of this competition were announced at the Annual Convention of the Alberta Quick-Freeze Locker Association which was held in Edmonton during March, 1953. Hanna's Frozen Foods, Calgary, was the 1952 winner of Section A (plants with 400 or more lockers installed); while the Spoor Meat Market and Locker Plant, Rocky Mountain House, won Section B, (plants with less than 400 lockers). This competition has created considerable interest in better housekeeping and the operation of plants with higher standards for sanitation, temperatures and service.

Due to the number of plants that are processing and freezing foods for home freezer customers a new monthly storage report form was printed and issued to the operators. This new form will furnish data on the amount and variety of food processed for home freezers in addition to what is processed for storage in lockers.

The following statistics have been prepared from information received on the monthly reports, and covers the 12 month period ending December 1st, 1953. Similar statistics for the previous year have been included for comparison, except that statistics on home freezers were not available in 1952 but were included in the total.

Processing done by Alberta Locker Plants for Storage in:

Products	1953		Home Freezers		1952	
	Pounds	%	Pounds	%	Pounds	%
Fresh Meats	12,519,724	7.93	1,175,226	76.5	12,623,325	75.2
Fish	106,189	.7	18,731	1.2	135,250	.8
Poultry	1,059,829	6.7	20,538	1.3	1,133,480	6.7
Game Birds	71,422	.4	1,284	.1	100,251	.6
Big Game	58,593	.4	1,047	.1	180,785	1.1
Cured Meats	1,280,443	8.1	61,236	4.0	1,773,918	10.6
Lard Rendered	154,967	1.0	4,123	.3	204,656	1.2
Fruits	152,958	1.0	68,794	4.5	208,391	1.2
Vegetables	277,684	1.8	83,131	5.4	308,988	1.8
Miscellaneous	100,375	.6	100,809	6.6	126,091	.8
Total	15,782,184	100.0	1,534,919	100.0	16,795,135	100.0
Total for Lockers and Home Freezers	17,317,103 lbs.					

	1952	1953
Number of plants reporting	148	153
Number of lockers installed	51,617	52,999
Average number of lockers installed	349	346
Number of lockers rented, December 1st	48,617	49,305
Percentage of lockers rented, December 1st	94.2	93.0
Average lbs. food stored per locker with complete service	358.8	332.4
Average lbs. food stored per locker with incomplete service	215.2	194.6
Average poundage per locker, all plants	345.5	320.0
Average lbs. per locker on the basis of lockers rented for 12 months	353.3	320.2
Inspections during the year	916	1,114

The above figures indicate an increase of 521,968 pounds of food processed by locker plants during the year. It will be noted that the percentage of lockers rented at December 1st was down 1.2% from the previous year. Undoubtedly the increasing popularity of home freezers has been partly responsible. The average amount of food stored per locker during the year was 25.5 lbs less than the previous year. Factors contributing to this lower average were (1) less big game and game birds available, (2) poor garden crops with less fruit and vegetables available for freezing and storing, and (3) increased prices for hogs resulted in fewer carcasses of pork being processed by the locker plant. The decrease in cured meats and lard rendered amounted to 543,164 pounds.

Milk Control Report

Submitted by the

BOARD OF PUBLIC UTILITY COMMISSIONERS

J. B. Moore, Administrator of Milk Control

While the year 1953 saw some shippers retire from the fluid milk producing business, this trend seems to have reached its peak last year. Present shippers, as a whole, are showing greater interest in and more awareness of the value of Board Quota Regulations.

The Board has continued to assist in the conduct of the Dairy Cost Survey and to provide a portion of the funds necessary to defray the costs involved.

1953 saw the retirement of G. M. Blackstock, Q.C. as Chairman of the Board and A. T. Neale as Administrator, Milk Control. The present Board consists of three Members, R. D. Henderson, Q.C. Chairman; C. J. D. Baines, Member; and G. H. Rose, Q.C. Members. A. T. Neale was succeeded by J. B. Moore as Administrator. Milk Control Inspectors in Calgary, Lethbridge and Edmonton are M. D. Phillips; W. R. Boyes, D. G. B. Thompson respectively.

For discussions with respect to Milk Control in general, and in one instance Formula pricing, representatives of the Board attended the following meetings during the year.

Saskatoon—Board Conference

Edmonton—National Dairy Council

Victoria—International Milk Board Convention

Report of the Poultry Branch

F. J. HIGGINSON, Acting Poultry Commissioner

R. H. McMillan, Poultry Supervisor

W. E. Hughes, Manager, Provincial Poultry Plant

INSPECTORS:

E. R. Nicholls	Calgary	J. Raffa	Edmonton
E. E. Kitchen	Red Deer	A. O. Mickelson	Edmonton

GENERAL REVIEW

The steady market prices in effect for the greater part of the 1953 season were encouraging to Alberta poultry producers and had a stabilizing effect on the poultry industry. The price of eggs steadily increased during the late spring and summer months, allowing a satisfactory margin of profit, with the average price paid to producers considerably higher than last year. However, due to the importation of several carloads of Grade A Medium eggs from eastern Canada in the late fall prices declined drastically, creating somewhat of a panic among producers. This decline has steadily continued and at the present time prices being paid are actually below production costs. The Federal government support price program is to be continued this year. With the large supplies of feed grains that are available at the present time, together with the existing grain quotas, and as feed costs constitute the largest single item in the production of eggs and poultry meat, poultry production provides a possible outlet through which this grain could be marketed. Caution, however, should be exercised as overproduction from this source could further depress prices and seriously effect the industry.

Storage stocks to date have been readily disposed of at satisfactory prices to meet domestic requirements, with wholesalers now commencing to store stocks for next season.

EGG AND CHICK PRODUCTION

A slight decrease was shown in egg production this year. However, with the higher average price, the total value of the product was greater than in 1952, with quality continuing very high. Producers are evidently conscious of the necessity of practicing good poultry husbandry.

Chick production was also slightly lower than last season, showing a decrease of approximately 3%. 7,261,434 chicks were hatched in Alberta, 454,775 were imported from other provinces, and 241,384 were exported. Most hatcheries report a very satisfactory season and quite a number are now operating the entire year round to meet the increasing demand for the broiler trade.

The keeping of all pullet flocks for efficient production and disease control continues to be a permanent policy among our poultry producers. At the present time hatcheries are reporting fairly heavy bookings of chicks for early delivery, which indicates flocks owners are conscious of the economical value of early

hatched chicks. The volume of bookings of both chicks and poults would seem to indicate a good hatching season in 1954.

TURKEYS

Presumably due to the low price of commercial turkeys last season poultry production and sales were considerably reduced in 1953, resulting in short supplies of turkeys available for both the Thanksgiving and Christmas trade. With the light offerings the market remained firm throughout the entire marketing period, with prices well in advance of last season. In 1952 turkey exports were 167 carloads as compared with 104 carloads in 1953. The volume of turkeys going through registered grading stations in 1952 was 6,905,875 pounds as compared to 4,333,457 pounds in 1953. The continuing differential on all birds over eighteen pounds is still difficult to understand and is certainly very discouraging to turkey producers, with approximately 90% growing Broad Breasted Bronze turkeys. It must also be remembered that, except for the few weeks at Christmas, the large bird is the premium bird and is in demand. Several carloads of heavy turkeys imported from the U.S.A. for the Thanksgiving market were readily absorbed by the trade. Indications point to a fairly heavy demand for poults this coming season. To meet this demand it may be necessary to again import large numbers of turkey eggs and poults. Turkey breeders are conscious of this situation and the demand for their product. Flocks are being increased in size and new ones established in order to make an adequate supply of quality turkey hatching eggs available to Alberta hatcherymen. Turkey flock owners are also following the recommended practices of good poultry husbandry.

DRESSED POULTRY

Storage stocks of turkeys are generally below what is considered normal at this time of the year. However, chicken and fowl show an increase over last year's figures. The Provincial dressed poultry regulations requiring that all dressed poultry offered for sale must be graded and sold according to the grade have now been in operation for one season and have proved generally satisfactory. It is, however, possible that from the experience of this year's operations a few minor changes in these regulations may be necessary. At present these regulations affect only the five principal cities, namely, Edmonton, Calgary, Lethbridge, Medicine Hat, and Red Deer.

TURKEY APPROVAL AND BANDING POLICY

The Turkey Approval and Banding Policy is being continued the same as in previous years, with special emphasis being placed on selection for market type. Last season, in cooperation with the other western provinces, the blood testing for pullorum disease was discontinued. However, due to an outbreak of this disease in Saskatchewan this year necessitating the renewal of testing in that province, it was deemed advisable to again test all the turkey breeding flocks in Alberta to remove any possible complications which might arise regarding interprovincial shipments of eggs and poults. In the 1951-52 season 62 breeding flocks, containing 12,587 birds, were approved. In the 1952-53 season 79 breeding

flocks, containing 15,721 birds, were approved, showing a substantial increase in flocks, numbers of birds, and hatchability.

POULTRY APPROVAL AND BANDING POLICY

The further development and interest being shown in the poultry industry is creating a heavy demand for hatching eggs, with hatcherymen showing a decided preference for Alberta products. This preference is gratifying and is an indication of the high quality produced here. The number of flocks and the number of birds approved indicate a substantial annual increase. The expansion of the broiler industry is providing an all season proposition for both flock owners and hatcherymen, and will necessitate amendments being made to the flock approval regulations to provide adequate disease control measures and increased staff for flock supervision.

STAFF ACTIVITIES

In reporting the activities of the Poultry Branch staff, it is a pleasure to announce the appointment of Mr. R. H. McMillan, a graduate of the University of British Columbia, as Poultry Supervisor.

Twenty inspectors were kept very busy during the fall and winter months supervising the Provincial Poultry and Turkey Approval and Banding programs, under which 1,078 poultry flocks, containing 302,599 birds, were inspected, banded, and blood tested, in the 1952-53 season. Four of these inspectors are permanent members of the Poultry Branch staff. The others are employed on a temporary basis during the very busy season.

Flock reinspections, service calls, culling and caponizing demonstrations, meetings, short courses, judging at poultry shows, etc., provided a full itinerary for the Poultry Branch staff. Six very successful achievement days were held this year, all of which were well attended and supported. For the third time, a junior poultry judging team was sent to the Toronto Royal Winter Fair and was successful in placing third in this great Dominion contest. Staff members have spent considerable time in assisting the District Agriculturists in coaching these young people.

PROVINCIAL POULTRY PLANT

The Provincial Poultry Plant at Oliver, consisting of fifty-three acres, is maintained and operated as both a poultry breeding and demonstration farm. The flock consists of 874 S. C. White Leghorns, 1,067 New Hampshires, and 120 Bronze turkeys, making a total of 2,061.

In addition to the R.O.P. and flock improvement work now being carried on at this plant, this season an experiment is being conducted as to the relative value of certain forms of feed and methods of feeding. Four-hundred New Hampshire pullets are being used in this experiment. These pullets are housed in units of two-hundred, quarters and conditions being identical. The birds were weighed in at the commencement and will be weighed out when the experiment has been completed. One pen is being fed in the regular recognized standard method, that is, laying mash before the birds ad lib, supplemented by scratch grain morning and evening. The other pen is being fed concentrate pellets ad lib, supple-

mented by grain morning and evening. Records are being kept of egg production, egg quality, body weight, and costs. This experiment was felt desirable as some feed firms were recommending the feeding of concentrate in pellet form as being a superior and more economical method of feeding than the standard method in use at the present time, using as an argument labor saving, reduced costs for grinding, etc. Due to this advertising many requests were being received at this office for specific information, which resulted in the decision to carry on this experiment, following which it is hoped that authentic information will be available to Alberta flock owners.

TOTAL NUMBER OF WHOLESALE POULTRY PREMISES OPERATING IN ALBERTA

Year	Registered Fully	Registration Tentative	Operating Total
1944			160
1945			188
1946	177	12	189
1947	168	17	185
1948	167	3	170
1949	163	3	166
1950	167		167
1951	165		165
1952	157		157
1953	154		154

PROVINCIAL POULTRY PLANT R.O.P. 1952-53 ENTRY

	S.C. White Leghorns (17th Year)	New Hampshires (3rd Year)
Birds Entered	300	287
Birds Certified	269—89%	122—43%
*Average Production	195	164
Average Egg Weight	25.6 ounces	25.2 ounces
Average Body Weight	4.6 pounds	5.4 pounds
Dead and Culled	44—15%	23—8%
Progeny Test:		
Male Passed	5 out of 6	1 out of 5
Females Passed	29 out of 35	10 out of 38

*Trapping period was 305 days.

SUMMARIZATION OF HATCHING AND SALES OF STOCK

	S.C. White Leghorns	New Hampshires
Hatched:		
R.O.P. Pedigree Chicks	8,757	3,747
Turkey Poults	591	
Sold:		
R.O.P. Pedigree Cockerel Chicks	481	605
R.O.P. Pedigree Poullet Chicks	409	
	890	605
Mature Males	78	22
Mature Females	1,666	555
Hatching Eggs	2,070 doz.	1,500 doz.

TABLE I.

Year	Method of Testing	No. of Flocks	No. of Birds	% Reaction
1930-31	Tube Agglutination	148	18,608	20.2
1931-32	" "	232	31,177	12.9
1932-33	" "	188	26,381	8.6
1933-34	" "	205	33,295	7.3
1934-35	" "	645	104,858	11.2
1935-36	" "	615	94,536	5.5
1936-37	" "	815	136,228	5.5
1937-38	" "	677	108,908	4.8
1938-39	" "	534	92,355	4.51
1939-40	Whole Blood	437	80,927	5.1
1940-41	" "	412	91,868	2.6
1941-42	" "	510	120,198	2.12
1942-43	" "	460	120,841	0.35
1943-44	" "	664	165,903	0.716
1944-45	" "	694	198,877	0.736
1945-46	" "	632	186,992	0.798
1946-47	" "	792	248,666	0.526
1947-48	" "	862	276,716	0.645
1948-49	" "	708	231,255	0.234
1949-50	" "	826	255,561	.193
1950-51	" "	930	291,660	.189
1951-52	" "	1,057	294,320	.261
1952-53	" "	1,078	302,599	.229

Note: The above reaction is on the first test. Some provinces show a lower reaction, but these are on the final tests where over 2% reaction required a second and sometimes third and fourth retests.

DEPARTMENT OF AGRICULTURE

DEVELOPMENT OF HATCHERIES AND CHICK SALES SINCE 1936

Year	Egg Setting Capacity	% of 1936	Chicks Hatched	% of 1936
1936	924,300		1,028,881	
1937	1,036,526	112.1	1,068,056	103.8
1938	1,033,906	111.9	1,171,082	113.8
1939	1,052,759	113.9	1,394,194	135.5
1940	1,203,368	130.2	1,538,597	149.7
1941	1,269,117	137.3	1,939,052	188.4
1942	1,407,280	151.2	2,631,468	255.8
1943	1,408,070	152.3	3,607,372	250.6
1944	2,102,434	223.1	5,476,476	532.3
1945	2,208,938	238.9	4,917,366	477.9
1946	2,445,750	264.6	5,711,423	555.1
1947	3,404,773	390.0	7,452,785	724.3
1948	3,638,704	393.7	6,265,620	608.9
1949	3,736,510	404.2	6,595,620	641.0
1950	3,862,436	417.9	5,940,992	577.4
1951	3,601,633	389.5	7,685,478	746.9
1952	3,900,055	421.9	7,484,064	727.4
1953	4,397,743	475.7	7,261,434	705.7

PRODUCTION OF CHICKS

	1952	1953
Breeder Hatcheries operating in Alberta	9	12
Commercial Hatcheries operating in Alberta	55	53
	64	65
Chicks Hatched in Breeder Hatcheries	161,060	127,645
Chicks Hatched in Commercial Hatcheries	7,323,004	7,133,789
	7,484,064	7,261,434

Decrease in Chick Production over 1952—3%

HATCHABILITY

	1952	1953
Chicks	66.8%	69.2%
Poult	46.2%	53.2%

CHICKS PRODUCTION BY BREED—1953

S. C. Leghorns	1,516,603
New Hampshires	1,548,907
Barred Plymouth Rocks	422,511
Rhode Island Reds	29,962
White Rocks	528,471
Black Australorps	201,189
Light Sussex	1,533,148
Crosses	1,401,103
Miscellaneous	79,540

ANALYSIS OF CHICK SALES

	1952	1953
Chicks Hatched	7,484,064	7,261,434
Chicks Not Sold	453,816	397,280
Chicks Exported	232,321	241,384
Chicks Imported	487,710	454,757
Chicks Remaining in Province	7,285,637	7,077,545

POULT PRODUCTION BY BREED—1953

Bronze	434,574
Beltville Whites	12,973
White Hollands	865
Bourbon Reds	54
Crosses	298
Miscellaneous	462

ANALYSES OF POULT SALES—1953

Poult Hatched	449,226
Poult Exported	8,337
Turkey Eggs Imported	368,917

Report of Agricultural Extension Service

F. H. NEWCOMBE, Director
 S. S. Graham, Supervisor of District Agriculturists
 Mrs. V. G. Macdonald, Supervisor, Women's Extension
 Miss B. J. Lewis, Extension Nutritionist
 Miss C. Judson, Extension Home Designer
 C. A. Cheshire, Extension Engineer
 R. E. English, Statistician
 C. J. McAndrews, Extension Irrigationist

STAFF

No additions were made to headquarters staff during the past year. Mr. E. B. Swindlehurst, formerly Extension Editor, was transferred to the Radio and Information Branch. Mr. T. Kilduff, formerly Research Extension Officer, has been transferred to duty with the Field Crops Branch.

AGRICULTURAL SOCIETIES

During the year two new Societies were organized. The Darwell Society formerly conducted a fair but without official recognition except that judges were provided. It has now been incorporated under The Agricultural Societies Act. The Argyle Agricultural Society with headquarters at Claresholm grew out of an Agricultural Improvement Association of some years standing.

The Viking and Birch Lake Agricultural Society, which has been more or less inactive for some time, was officially reinstated.

The Society at Ryley, organized in 1950, was disorganized by Ministerial Order.

There are now 45 Agricultural Societies as of record at the close of 1953. Of these, 6 conducted "B" Class Fairs and 20 conducted "C" Class Fairs.

The numbers of activities other than fairs which were conducted by Agricultural Societies during the past year are shown hereunder:

Tillage Competitions	8
Livestock Sales	3
Seed Fairs	4
Horticultural Exhibitions	1
Farm and Home Improvement Competitions	8
Junior Club Display Competitions	2

FARM LABOUR

General

The farm labour situation generally has been somewhat easier during 1953. Supply has shown little change and while more labourers could have been placed, there was not at any time an acute shortage resulting in financial loss.

Seasonal Movements

(a) Ontario Farm Workers

Expansion and development in the industrial field throughout the Province and particularly in the Edmonton district, makes

it difficult to recruit workers to be sent out of the Province. The wages available to Westerners in Ontario are relatively low in comparison with what these workers can earn in any time which they may have free from their usual employment on farms and elsewhere. Total number of workers despatched to Ontario this season is 132.

(b) **Prairie Farm Workers**

After the excellent season experienced in 1952 it was scarcely to be hoped that the 1953 season could possibly be so good. Such, however, was the case and while not as many of these workers came forward as last year, suitability of the workers was good and no difficulties in administration were experienced. Harvest was finished at least as early as last year and several men were returned to the East on special authority before the beginning date for the return movement. Total number of these workers placed was 665 as compared with 1,163 in the year before. In addition to these placements, 165 men are known to have proceeded to placements arranged by themselves or directly from Winnipeg. There appears to be an increasing number of these who come West in groups of four or five in one automobile and do not take advantage of the tariff.

Wages approximated the same as last year, namely \$8.00 to \$9.50 per day plus board and room, and upward to \$1.00 or more per hour for experienced combine operators.

(c) **Alberta Harvesters**

This heading is used to include all of those placed in the harvest fields except Prairie Farm Workers. Provincial field staff placed 856 of these workers, while N.E.S. Offices throughout the Province reported a total of 2,154 placements.

It would appear that the response to radio appeals was good and it is estimated that from Edmonton alone perhaps some 300 weekend and holiday workers participated in the harvest.

(d) **Berry Pickers**

A total of 64 women and girls were recruited by Provincial staff and N.E.S. and despatched by the latter for the fruit harvest in B.C.

Immigrants

(a) **Sugar Beet Workers**

It is estimated that a total of 1,700 immigrants arrived in the sugar beet area primarily for work in beet fields. Of that number, 1,581 were brought in through the Department of Labour and of these, 1,000 were workers and the balance family members not suitable for field work.

In a general way this slightly over-supplied the requirements in this field this year, tending to produce a rather independent attitude on the part of the beet grower. Mechanization of beet work continues to add to the problems of labour administration since the development of seeding and harvesting machinery is proceeding more rapidly than the development of machines for working the beets in mid-season. Particularly with respect to harvesting, machinery increases to take topping and lifting out of the hands of workers and, as is generally known, this has been the

most profitable portion of the season's work in beets. Some consideration may have to be given by the growers to the distribution to the workers of part of the saving now being effected by the use of mechanical harvesters.

(b) **Single German Workers**

One hundred and eight of these came to the Province of Alberta this year, 10 of them having come on from other Provinces where they were originally placed. It may or may not be significant that the experiences of over 200 farmers who applied for these workers in 1952 stimulated less than 100 applications in 1953.

In the opinion of the Farm Labour Committee, the net results with respect to the farm labour force does not justify continuance of this program.

Domestics

The placement of these workers has been negligible due, of course, to lack of supply and not to lack of demand. All told, 28 domestics were placed in employment.

Investigations and Transfers

For Provincial staff these total 663 for the year under review, that figure being exclusive of transfers of harvest workers.

Custom Combines from U.S.A.

Statistics indicate that this movement is increasing slightly from year to year since 40 were admitted this year as compared with 33 for 1952.

Statistical Review

The following figures reflect statistically the placements under the various movements during 1953 with the 1952 figures for comparison:

General Farm Labour	1952	1953	
(a) Requirements	810	853	
(b) Placements—incl. German F.W. (Prov.)	590	841	
(NES)	*	5,024	
Total			5,865
Seasonal Movements			
(a) Ontario Farm Workers (recruited)	203	132	
(b) Prairie Farm Workers (placed)	1,163	655	
Prairie Farm Workers direct to own placements	*	165	
(c) Alberta Harvesters (Prov. Field Staff)	*	856	
Alberta Harvesters (NES Offices)	*	2,154	
Total harvesters			3,830
(d) B.C. Berry Pickers (Prov. and NES)	48	64	
Immigrants			
(a) Beet Workers	994	1,000	
(b) Single Germans	148	108	
Domestics (placed)		28	
			1,136
TOTAL WORKERS			10,831
Investigations and Transfers (excl. harvest workers)		663	
Custom Combines (Admitted from U.S.)	33	40	

*Not Known.

MASTER FARM FAMILY PROGRAM

This program completed its fifth year of operation with 21 farm families nominated. Selection and elimination, conducted in the usual way and on the basis of the same score card, resulted in the following being declared by the Minister to be Master Farm Families for the year 1953.

Ernest Belzil Family, St. Paul, Alberta
Frank Jackson Family, Keg River, Alberta
Emil Kvarnberg Family, Buford, Alberta
Lester Lohr Family, Erskine, Alberta
Howard Hymas Family, Rosebud, Alberta.

This now makes a total of 24 families who have been declared since the inception of the program in 1949.

NAMES OF HOMES ACT

This Act makes possible the registration of a name for a home or farm ensuring the applicant of the exclusive use of that name for the home or farm. It does not provide for use of the name as a pedigree prefix in the registration of livestock.

The number of names registered during 1953 was 10, bringing the total registrations since the Act was passed in 1922 to 230.

PUBLICATIONS

A total of 222,000 publications on agriculture and homemaking were distributed during the year.

AGRICULTURAL ENGINEERING

Agricultural Engineering work remained at approximately the same level during 1953 as in 1952. While the emphasis changed to some extent, an increase in work in one direction requires a decrease in another because the full time of one man is taken up in the work without fully meeting the demand for his services.

Due to more favorable weather in the spring of 1953, 47 field days and demonstrations were conducted throughout the Province, with 23 demonstrations, 5 competitions and 19 field days making up this total. The approximate number of people reached through this medium was 7,950.

Twenty-one meetings, where some phase of agricultural engineering was the major topic, were attended by 1,265 people, while at 35 meetings and short courses one or more topics on agricultural engineering were included in the program. The attendance at these meetings was 3,200 people.

The major subjects covered during the winter of 1953 were water systems and sewage disposal. Other topics included farm buildings, machinery, electricity, ventilation, silage and drainage.

Individual farm calls made at the request of the District Agriculturists totalled 181, an increase of 60 per cent over 1952. In spite of this increase there still was a large number of requests that could not be serviced.

During 1953, 65 calls were made at 32 of the District Agriculturists Offices to either plan for or check on requirements and activities in the agricultural engineering field.

Seventeen radio talks were given during the year and recordings were made of part of the agricultural engineering work at three field events. Fifteen items were contributed to Farm Notes and approximately 560 letters were written. The topics of major interest were water and sewage, farm machinery and rural electrification.

In addition to the above routine duties, a survey of silos and silage was conducted in co-operation with the Livestock and Dairy Branches. A total of 56 silos in the Province were visited and sampled and the operators owning these units interviewed. This survey was undertaken to determine trends in silo construction, evaluate the different methods of handling silage, and ascertain where the most effective help could be given in handling this type of feed. Information gained from this survey has been useful in making recommendations over the whole range of silage production.

During the early summer three tests were set up to determine the possibility of using barbed wire to cut long silage into blocks in a trench silo. This method has proven impractical as far as barbed wire is concerned but may have possibilities with some other cutting mechanism. Work on these silos has indicated, however, that even without special cutting equipment the production of silage using long material is still a practical method of handling the feed on some farms.

During the early fall, in co-operation with the Agricultural Engineering Department of the University, work was commenced on barley combining trials to obtain more information on the harvesting of malting barley. Several days were spent on this project during the unfavorable weather of early September and finally the project was abandoned for the year.

In late autumn a survey was made of dugout water from the Peace River District. A preliminary survey indicated that water obtained from the recommended type of filter is harder and contains more impurities than the water in the dugout itself. Further sampling in this survey was completed and the water analyses were received within the last few days of the year. These have not been tabulated to date. The purpose of this survey is to determine whether the present filters are doing an adequate job and, if they are not, to initiate work that will allow this deficiency to be corrected.

During the spring and summer the Farm Mechanics Instructors from the Schools of Agriculture were employed on Extension work. In addition to tillage machinery events, they conducted demonstrations of haying and harvesting equipment, made farm visits and spoke at meetings. A gully filling operation, supervised by the Fairview Farm Mechanics Instructor, was carried out in co-operation with the District Agriculturist and local Service Board in the Manning area. In this demonstration a relatively large gully was reclaimed with heavy equipment.

During the spring the instructors produced a series of charts on tillage equipment that were used at field days and demonstrations. These are also being used at the Schools of Agriculture during the winter. In addition to this work, V. W. Osbaldeston completed the script for a publication on tillage equipment, while J. A. R. Palin has been working on the material for a publication on rural electrification.

Even with the help of the Farm Mechanics Instructors from the Schools of Agriculture, it is impossible to provide the number of demonstrations and field days requested by the District Agriculturists. The demand for agricultural engineering topics at meetings and short courses during the winter cannot be met. In addition, requirements of other Branches of our Department of an agricultural engineering nature are not receiving attention simply because of the inability of one man to handle all of the work.

STATISTICS

General

The Agriculture Division of the Dominion Bureau of Statistics is the principal agency engaged in compiling statistics of agriculture in Canada. The Extension Service of this Department co-operates with the Bureau by assisting to maintain lists of respondents to mailed questionnaires, checking estimates of crop acreages and livestock populations, etc. This office releases estimates of crop acreages and livestock numbers simultaneously with the Bureau giving greater detail (by classes and crop districts), as the public or the objects of the Department may require.

In 1953, ten crop reports and a final "Autumn Survey" were issued. In addition, thirteen summaries of Alberta crop conditions were prepared for use in Dominion Bureau of Statistics crop reports. This work is based on returns from mailed questionnaires sent to nearly 250 crop correspondents at two-week intervals during the growing season.

The Crop Year

On the basis of soil moisture reserves, crop prospects for 1953 were below normal at April 1st. However, the water from melting snow was absorbed into the soil with little loss and after the end of April, the precipitation received in most districts was more than adequate. In many districts, a high proportion of the moisture came in the form of torrential rains and the incidence of hail was high.

Average temperatures for the growing season ranged from 2 to 4 degrees below normal in the south to about normal in the north. But in spite of the cold season, early-seeded crops made steady growth throughout. Later seedings however, were slow and lacked vigour until helped by warmer weather in August. General frosts severe enough to cause damage did not occur until near the end of September. October was warm and dry.

Early wheat deliveries showed a prevalence of immature kernels, indicating farmers' anxiety respecting frost. Then in September many light but wide-spread showers resulted in considerable grain grading tough. However, the dry weather that followed permitted the completion of harvest in good order.

Field Crops

For the third consecutive year, Alberta harvested a much better than average crop. According to November estimates the yields per acre of principal cereal crops in bushels (1908-53 averages in brackets) were as follows: wheat, 25.7 (18.2); oats, 47.5 (34.5); barley, 31.0 (25.6); fall rye, 22.9; spring rye, 16.7 (all rye, 15.5); and flax seed, 12.2 (8.6).

The estimated acreage, yield, production and value of principal field crops are shown in Table 1.

The acreage and yield of sugar beets were down somewhat from 1952 figures, and the area devoted to the production of commercial mustard was reduced from about 40,000 to 25,000 acres. Wet weather at planting time would appear to have been one cause of fewer acres in canning and other specialty crops in irrigated districts.

The acreage devoted to the production of forage crop seeds in 1953 was up sharply from 1952 figures. With the exception of brome and red fescue seeds, however, total production of most kinds was reduced. Detailed estimates by principal crops follow:

Crop	Acres		Production	
	1952	1953	1952	1953
Alfalfa	70,000	75,000	6,000,000	4,000,000
Red Clover	6,000	10,000	1,900,000	1,750,000
Alsike	18,000	20,000	7,500,000	5,000,000
Sweet Clover	20,000	20,000	7,500,000	4,000,000
Timothy	2,000	1,000	359,000	200,000
Brome	50,000	75,000	7,000,000	10,000,000
Red Fescue			2,121,000	7,500,000
Crested Wheat			300,000	150,000
	<u>166,000</u>	<u>201,000</u>	<u>32,680,000</u>	<u>32,600,000</u>

Livestock

Estimates of livestock numbers show that the populations of cattle, sheep and swine all increased in the year ending June 1st, 1953. Cattle numbers reached an all-time peak of 1,910,000 head. Previous highs occurred in 1945 with 1,860,000 and in 1951 with 1,854,000 head.

The number of sheep on Alberta farms has increased from 330,500 in 1951 to 432,000 in 1953. This is far below the record number of 1,023,200 head recorded in 1944.

Swine numbers have increased from 833,900 in 1948 to 1,180,000 in 1953. The June 1st population was 50 per cent of the estimated 2,337,700 on farms in 1943.

Detailed statistics of numbers and value of livestock and poultry on farms at June 1st, 1952 and 1953 are as follows:

Kind	Number		Values per head		Total Farm Values	
	1952	1953	1952	1953	1952	1953
			\$	\$	Thousand dollars	
Milk Cows	280,000	289,000	235	190	65,800	54,910
Calves	493,000	530,000	77	62	37,961	32,860
Other Cattle	981,000	1,091,000	187	146	183,685	159,012
All Cattle	1,754,000	1,910,000	164	129	287,446	246,782
Hogs	1,170,000	1,180,000	26	31	30,870	36,636
Sheep and Lambs	387,000	432,000	20	19	7,887	8,368
Horses	239,700	222,000	50	51	11,934	11,240
All Livestock					<u>338,137</u>	<u>303,026</u>
Domestic Fowl	8,420,000	8,280,000	.94	.88	7,886	7,323
Turkeys	640,000	530,000	2.78	2.29	1,776	1,215
Geese	80,000	78,000	2.32	2.27	186	177
Ducks	95,000	91,000	1.40	1.14	133	104
Total Poultry . . .					<u>9,981</u>	<u>8,819</u>

The number and value of livestock marketed through public stockyards, at packing plants and direct on export are reported by the Marketing Service, Canada Department of Agriculture.

DEPARTMENT OF AGRICULTURE

Kind	Marketing*		Value per Head		Total Value	
	1952	1953	1952	1953	1952	1953
	Number		\$	\$	\$	\$
Cattle	382,637	471,634	185.86	142.10	71,115,776	67,020,379
Calves	84,332	113,676	77.14	55.62	6,505,484	6,322,526
Sheep and Lambs	133,086	112,523	18.28	16.30	2,432,392	1,833,850
Swine	1,362,142	1,432,438	38.67	46.54	52,674,108	66,659,142
Total Value					132,727,760	141,835,897

*Includes movement back to farms for further feeding.

However, the true production of meat animals includes net sales, farm slaughterings and inventory change. On this basis, the estimated number and value of production for 1952 and 1953 were as follows:

Kind	Production		Value per Head		Total Value	
	1952	1953	1952	1953	1952	1953
	Number		\$	\$	\$	\$
Cattle	474,568	491,257	181.83	148.12	86,297,000	72,766,000
Calves	162,683	179,204	75.34	60.34	12,256,000	10,814,000
Sheep and Lambs	167,434	164,912	17.19	15.94	2,878,000	2,629,000
Swine	1,828,877	1,656,413	37.06	42.20	67,786,000	69,897,000
Total Value					169,217,000	156,106,000

As compared to 1952 the price paid for good butcher steers basis Edmonton stockyards in 1952 was down 22 per cent, good handyweight lambs were down 10 per cent, and hog prices increased 17 per cent. A graph showing the weekly price trend for the two years is included in this report. (See page 98).

Livestock Products

In the year ending June 1st, 1953, the estimated number of cows kept mainly for milk increased from 280,000 to 289,000 or 3.1 per cent. However, increases in the production of dairy products were greater than indicated by the change in cow numbers. Deliveries of butterfat for creamery butter, milk for cheese-making, ice cream and milk and cream for the fluid trade increased 20,128, 4 and 7 per cent respectively.

Egg production dropped slightly in 1953 but prices were higher, resulting in increased farm income from this source. Income from the sale of poultry meat changed little from 1952 although the relative quantities of the kinds marketed changed considerably.

Detailed statistics of the production and value of livestock products in 1952 and 1953 are shown in Table 2.

	VALUE OF AGRICULTURAL PRODUCTION IN SUMMARY		
	1951	1952	1953
	\$	\$	\$
Field Crops	503,067,000	534,323,000	458,171,000
Livestock	178,674,000	169,930,000	157,489,000
Dairy Products	37,495,000	35,984,000	37,864,000
Poultry Products	28,525,000	25,141,000	29,047,000
Honey and Wax	569,000	618,000	563,000
Wool	1,080,000	725,000	754,000
Fur Farming	2,826,000	2,836,000	2,651,000

FARM INCOME AND OPERATING EXPENSES

Preliminary estimates show high farm incomes from farming operations in Alberta for 1953. However, farm operating expenses also were high. The following three statements prepared by the Agriculture Division of the Dominion Bureau of Statistics provide comparative figures on farm income and expenditures for the years 1951 to 1953 inclusive:

CASH INCOME FOR THE SALE OF FARM PRODUCTS*

	1951		1952		1953	
	\$ '000	% of Total	\$ '000	% of Total	\$ '000	% of Total
Field Crops	239,007	51.4	320,178	62.9	290,614	59.0
Live stock	162,889	35.0	130,739	25.6	141,480	28.7
Dairy Products	26,955	5.8	26,582	5.2	28,572	5.8
Poultry Products	20,226	4.4	17,833	3.5	20,507	4.2
Honey	545	.1	584	.1	543	.1
Wool	1,077	.2	724	.1	732	.1
Fur Farming	2,265	.5	2,211	.4	1,614	.5
Miscellaneous	6,985	1.5	7,678	1.5	7,467	1.5
Total Income from the Sale of Farm Products*	459,949		506,529		491,529	
Supplementary Payments (P.F.R.A.)	4,235	.9	2,349	.5	559	.1
Total Cash Income	464,184	100	508,878	100	492,088	100

*Includes all payments actually received by Farmers from the sale of farm products, plus interim and final payments of participation certificates issued by the Canadian Wheat Board in each calendar year.

FARM OPERATING EXPENSES AND DEPRECIATION CHARGES

	1951	1952	1953
	\$ '000	\$ '000	\$ '000
Taxes	15,836	17,404	18,866
Gross rent	38,221	40,255	30,089
Wages paid to labour	31,070	36,502	33,685
Interest on indebtedness	6,946	7,378	7,914
Feed and Seed purchased	17,235	18,573	16,662
Tractor expenses	24,862	28,298	29,209
Truck expenses	11,750	12,093	14,232
Automobile expenses for farm business	8,670	9,771	10,494
Engine and combine expenses	3,101	4,135	4,170
Machinery repairs and shop charges	12,969	14,191	14,291
Fertilizer	3,271	2,991	3,612
Fruit and vegetable supplies	3,307	3,492	3,312
Repairs to buildings	6,253	7,893	8,284
Miscellaneous	12,143	12,313	11,732
Total operating expenses	195,634	216,099	206,552
Depreciation, buildings and machinery	38,335	41,612	46,734
Total operating expenses and depreciation	233,969	257,711	253,286

NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS

	1951	1952	1953
	\$ '000	\$ '000	\$ '000
Cash Income from the Sale of Farm Products	459,949	506,529	491,529
Income in Kind	48,107	46,729	48,350
Value of Changes in Inventory	+ 114,092	+ 63,412	+ 19,799
GROSS INCOME	622,148	616,670	559,678
Operating Expenses and Depreciation	233,969	257,711	253,286
NET INCOME (excluding supplementary payments)	388,179	358,959	306,392
Supplementary Payments (P.F.A.A.)	4,235	2,349	559
NET FARM INCOME	392,414	361,308	306,951

TABLE I.
ESTIMATED ACREAGE, PRODUCTION AND VALUE OF PRINCIPAL FIELD CROPS 1953 COMPARED TO 1952

	Seeded Area		Yield Per Acre		Production		Price Per Unit		Total Value	
	1952 Acres	1953 Acres	1952 bu.	1953 bu.	1952 bu.	1953 bu.	1952 \$	1953 \$	1952 \$	1953 \$
Wheat	6,404,000	6,340,000	26.9	25.7	172,000,000	163,000,000	1.53	1.50*	263,160,000	244,500,000
Oats	2,587,000	2,357,000	49.9	47.5	129,000,000	112,000,000	0.59	0.56*	76,110,000	62,720,000
Barley	3,334,000	3,439,000	35.4	31.0	118,000,000	106,000,000	1.33	0.82*	127,540,000	88,560,000
Fall Rye	254,000	328,000	21.3	22.9	5,400,000	7,500,000	1.33	0.81	7,182,000	6,075,000
Spring Rye	126,000	132,000	19.0	16.7	2,400,000	2,200,000	1.33	0.81	3,192,000	1,782,000
Mixed Grain	71,300	80,600	40.7	35.0	7,800,000	2,821,000	0.78	0.75	2,262,000	2,116,000
Flax Seed	151,000	148,000	13.2	12.2	2,000,000	1,800,000	3.10	2.33	6,820,000	4,660,000
Potatoes	16,700	15,400	195.0	179.0	3,256,000	2,757,000	1.53	1.26	4,982,000	3,474,000
Sugar Beets	36,700	34,700	13.6	12.17	479,849	422,460	16.08	14.00*	7,716,000	5,912,000
Tame Hay	1,292,000	1,300,000	1.75	2.00	2,261,000	2,600,000	15.00	12.50	33,915,000	32,500,000
Miscellaneous	(Forage crops seed, dry peas, vegetables for processing, mustard seed)								7,444,000	5,872,000
Total	14,274,700	14,224,700							534,323,000	458,171,000

*Prices estimated by the Alberta Department of Agriculture for the purpose of arriving at preliminary values for comparison with 1952 figures.

TABLE 2.
ESTIMATED PRODUCTION AND VALUE OF PRINCIPAL LIVESTOCK PRODUCTS
IN ALBERTA, 1952 AND 1953

Products	Unit	Production		Price Per Unit		Total Value	
		1952	1953	1952	1953	1952	1953
Dairy Products:							
Butterfat for creamery butter	lb.	22,671,000	24,594,000	\$0.60	\$0.60	\$13,679,000	\$14,801,000
Dairy butter produced	lb.	3,457,000	3,043,000	0.56	0.56	1,936,000	1,704,000
Milk and fat for ice cream	cwt.*	401,280	417,010	2.45	2.41	985,000	1,006,000
Milk for cheese and concentrat- ing	cwt.	608,840	676,980	2.76	2.41	1,678,000	1,637,000
Milk and cream for fluid sales	cwt.*	2,406,280	2,575,470	4.23	4.30	10,175,000	11,076,000
Milk consumed on farms	cwt.	1,381,230	1,309,930	2.40	2.40	3,315,000	3,144,000
Milk fed to farm animals	cwt.	895,660	962,720	2.40	2.40	2,315,000	2,311,000
Skimmilk etc. fed on farms	cwt.	6,453,470	6,826,400	0.32	0.32	2,066,000	2,185,000
Total value dairy products						\$35,984,000	\$37,864,000
Poultry Products:							
Commercial Eggs	doz.	33,048,000	36,274,000	0.33	0.39	10,949,000	14,138,000
Hatching Eggs	doz.	1,065,000	963,000	0.57	0.61	611,000	589,000
Poultry Meat	lb.	39,123,000	40,636,000	0.35	0.35	13,581,000	14,320,000
Total value poultry products						\$25,141,000	\$29,047,000
Honey	lb.	4,900,000	3,856,000	0.12	0.14	618,000**	563,000**
Wool	lb.	1,908,000	1,985,000	0.38	0.38	725,000	754,000
Fur Farming***	No.	229,529	223,425			2,836,000	2,651,000

*Milk equivalent.

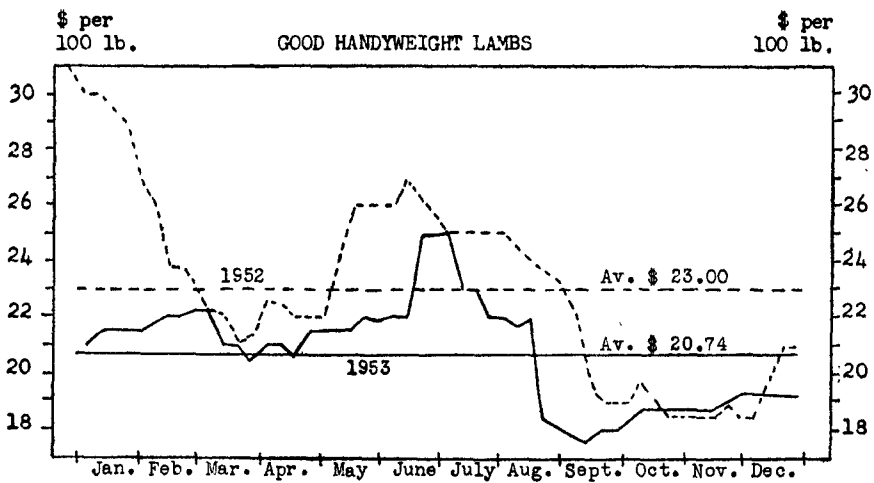
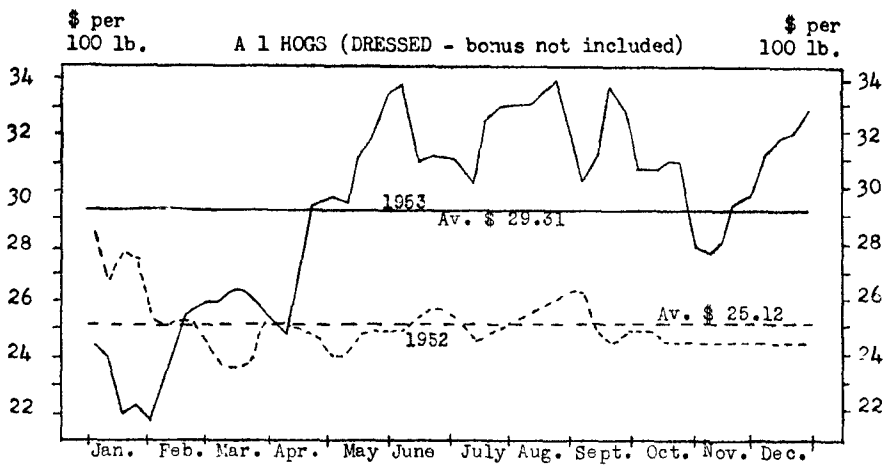
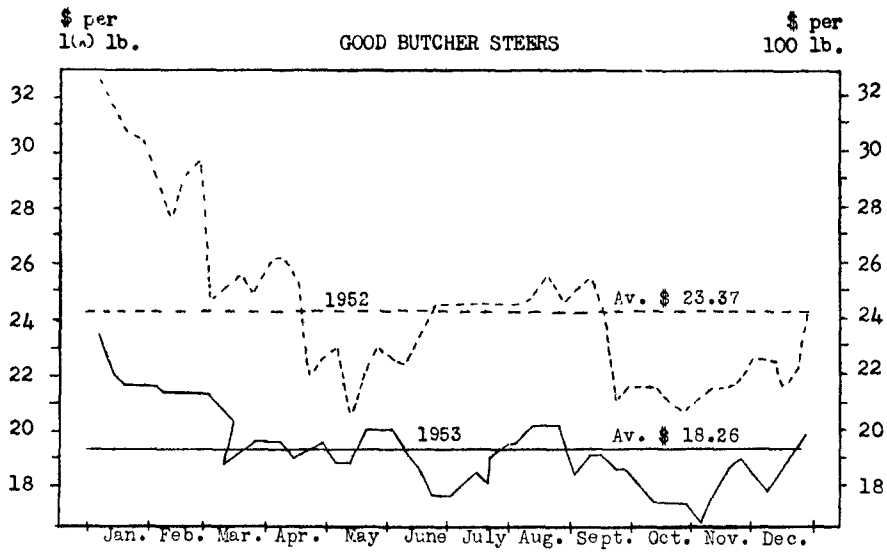
**Includes the value of wax.

***Year ending Aug. 31. Includes animals pelted and exported alive.

Live Stock Prices

The graph on the following page shows weekly average live stock prices quoted at Edmonton January 1 to December 31, 1952 and 1953 respectively as reported by the Live Stock Marketing Service, Canada Department of Agriculture.

DEPARTMENT OF AGRICULTURE



DISTRICT AGRICULTURIST DIVISION

Personnel

As at the close of the year, 42 offices are maintained as indicated below:

Athabasca	G. L. Godel	Medicine Hat	J. L. Anderson
Berwyn	A. W. Beattie	Myrnam	To be appointed
Bonnyville	L. Gareau	Olds	Hugh McPhail
Brooks	Ira Lapp	Ponoka	J. L. Kerns
Calgary	N. F. Bell	Red Deer	J. L. Eaglesham
Camrose	W. A. Moisey	Rocky Mtn. House	G. A. Ross
Cardston	D. L. Steed	Ryley	N. A. Chomik
Claresholm	H. H. Michael	Sangudo	L. H. Peacock
Coronation	J. D. Jantzie	Sedgewick	L. D. Williams
Drumheller	S. W. Pettem	Smoky Lake	Fred Stranshok
Edmonton South	B. J. Whitbread	Spirit River	G. W. Shewchuk
(Assistant)	H. J. Fulcher	Stettler	R. D. Price
Edmonton North	J. M. Fontaine	Strathmore	K. H. Walker
Evansburg	A. A. Campbell	St. Paul	M. Chevette
Falher	To be appointed	(In Training)	V. Surprenant
Grande Prairie	J. T. Stranatka	Taber	R. A. Simmons
Hanna	W. J. Perkins	Vegreville	W. H. Pidruchney
High River	C. E. Yauch	Vermilion	E. H. Buckingham
Lac La Biche	J. S. Lore	(Assistant)	R. C. Moffat
Lacombe	L. W. Rasmusson	Wainwright	J. S. Duncan
Leduc	J. R. Gylander	Westlock	W. A. Ross
Lethbridge	P. Jamieson	Wetaskiwin	W. C. Proctor
(Assistant)	A. E. Edwards	Willingdon	F. Magera

Appointments During 1953

- G. A. Ross—District Agriculturist at Rocky Mtn. House
- D. F. McLean—In training
- A. E. Edwards—Assistant at Lethbridge
- R. C. Moffat—Assistant at Lacombe
- V. Surprenant—In training

Transfers

C. E. Yauch from Assistant at Lethbridge to District Agriculturist at High River.

J. S. Lore from Assistant at St. Paul to District Agriculturist at Lac La Biche.

R. C. Moffat from Assistant at Lacombe to Assistant in Vermilion.

J. S. Duncan from Assistant at Red Deer to District Agriculturist at Wainwright.

J. B. Gurba from District Agriculturist at Myrnam to Assistant Supervisor of Pest Control, Field Crops Branch.

Resignations

F. L. Paquin—District Agriculturist at Falher—to go into private business.

D. F. McLean—Assistant at St. Paul—to take a position with a commercial firm.

E. A. Chisholm—District Agriculturist at Rocky Mtn. House—to take a position with Western Stock Growers Assoc.

J. S. Robblee—District Agriculturist at Wainwright—to go into private business.

New Offices

High River.

Farm Management

District Agriculturists are receiving a steadily increasing number of requests for assistance and information on balanced farm planning, farm leases and agreements, father and son agree-

ments and farm accounts. District Agriculturists now have assisted 117 progressive farmers to plan and put into operation a reasonably complete farm plan. They have induced another 413 farmers to take the first steps by adopting long term crop sequence plans for their farms. Farm leases or father and son agreements have been arranged for 69 farmers. Cost accounts have been set up for another 15 farms. Meetings primarily to discuss farm management were held on 149 occasions. The subject was also discussed by District Agriculturists at 405 other meetings. Assistance was given in various phases of farm management to 3,138 persons through correspondence and interviews.

Soil Conservation

Interest in soil conservation projects and programs has been maintained throughout the year, with 551 farmers participating in special projects. Two hundred and four demonstration plots were laid down, and methods and results obtained were seen by 4,693 persons. Special soil conservation meetings were held on 165 occasions and these were attended by 9,192 persons. Further assistance was given to 5,677 persons through correspondence and interviews.

Weed Control

District Agriculturists working with the service boards have been able to bring to the farmer increased knowledge of improved machines and equipment, and proven cultural practices. The establishment of community seed cleaning plants is assisting in preventing the seeding of grain infested with weed seeds and 18 of these, together with 73 farm operated plants, have been given assistance in organization and operation. Seed drill samples were collected and graded from 1,581 farms to demonstrate the quality of seed being sown throughout the Province. One hundred and forty-four field or plot demonstrations were conducted to demonstrate cultural and chemical control practices to 6,574 persons. Weed control meetings were conducted on 202 occasions to deal specifically with this subject. Attendance at these meetings totalled 10,014 and an additional 5,403 farmers received assistance through correspondence and interviews.

Crop Improvement (Grain)

To demonstrate the comparative value of new and different varieties of grain, 75 plots were seeded down. Forty-six field days were held to study the results and these were attended by 4,419 persons. District Agriculturists assisted in the distribution of over 40,000 bushels of registered seed grain and over 450,000 bushels of commercial quality. They made 82 field inspections regarding the registration of fields and assisted an additional 4,169 persons in matters of crop improvement.

Crop Improvement (Forage)

One hundred and four forage seed production plots were put down and an additional 246 farmers participated in pasture improvement projects. As a means of demonstrating the value of forage crops in a crop sequence plan, 31 farmers were provided forage seed at reduced cost.

Eighty-seven variety demonstration plots were seeded down throughout the Province to give farmers an opportunity to compare

the value of these forage crops grown under similar conditions to those found on their own farms. Nineteen silage demonstrations were organized to demonstrate types of silos, methods of handling and feeding silage. The field days and demonstrations listed above were attended by 3,585 persons. In addition, 4,008 people received help and advice on the subject of forage crops.

Field Crop Pests and Diseases

Our offices maintained a close liaison with Science Service, Experimental Farms, Universities, and our own plant protection service to help farmers in their constant battle against insect pests and plant diseases.

Seventy-five demonstrations outlining control measures for insect pests and plant diseases were conducted before a total audience of 2,644 persons. Specimens numbering 295 were forwarded for identification to the proper authorities and suitable control measures prescribed. Assistance in matters of insect pests or plant diseases was given to 2,528 persons through correspondence and interviews.

Livestock Improvement

Interest in livestock continues to fluctuate with market trends and unmarketable surpluses of grain. District Agriculturists try at all times to keep a long term view in mind and to work constantly toward improvement in quality and more efficiency in production methods. Forty-six demonstrations involving selection or culling of breeding herds were conducted before an aggregate audience of 3,345 persons. Livestock meetings dealing primarily with this subject were organized and conducted on 253 occasions. These meetings were attended by 15,043 people.

No. of Herds or Flocks Assisted with Selection or Culling		
	No. of herds or flocks	No. of animals or birds
Beef	147	2,962
Sheep	36	1,554
Swine	148	1,843
Poultry	49	6,753

Our offices assisted with the registration of 1,162 animals, loaned departmental dehorners to 1,270 farmers and otherwise assisted 6,304 persons with livestock matters.

Livestock Placements Through Offices		
	Male	Female
Horses	11	36
Cattle	1,216	1,635
Sheep	184	991
Swine	524	947
Poultry	397	4,575

Livestock Marketing

No. of public sales assisted	34
No. of animals sold at these sales	14,056
Estimated amount of money saved or earned for farmers	\$75,150
Persons otherwise assisted	1,041

Livestock Pests and Diseases

District Agriculturists work closely with local veterinarians, Science Service, Experimental Farms, and our own Department specialists, to deal with these outbreaks when necessary.

No. of farmers participating in Bang's Control Program	22,706
No. of calves vaccinated	147,483
No. of farmers participating in coyote control	6,907
No. of coyotes killed	22,504
No. of demonstrations given on livestock pests and disease	323
Attendance	5,232
No. of specimens forwarded for identification	347
No. of persons otherwise assisted	4,718

Dairying

Efforts are directed chiefly towards improvement in the stability and efficiency of the dairy industry as applied to farm practices. Assistance is given in the selection of suitable breeding stock, in conducting sales, shows, and in balanced and economical feeding practices. A considerable effort has been spent on loose housing of dairy cattle, increased use of improved forage crops and pastures, and on 4-H dairy club projects.

Forty-one demonstrations on some phase of dairy production were organized. These were attended by 2,903 persons. Assistance was given in selecting and culling 98 dairy herds. Persons given assistance through correspondence and interviews numbered 1,676.

4-H Clubs

Interest continues to increase in 4-H Club programs and activities. There is a request for more clubs than our present staff can adequately supervise. Pressure for the organization of clubs often comes from organizations or public spirited individuals, rather than from parents and possible members, whose enthusiasm is a principal factor in success.

No. of clubs supervised by District Agriculturists	329
No. of members	5,279
No. of 4-H demonstrations conducted	423
No. of persons attending demonstrations	15,375
No. of 4-H meetings	1,515
No. of judging teams trained for Provincial or National Contests	64

Youth Training

Eighty-three special short courses, club camps, field days, rallies, or tours were organized and conducted for farm young people. There were 6,447 juniors participating in these events.

Agricultural Service Boards

These Boards are making their influence felt in the agricultural economy of the Province and are gaining recognition and support by those interested in agricultural progress. Close co-operation between the Service Boards and the District Agriculturist have made possible the development of a number of progressive agricultural programs and projects in Municipalities. Improved practices and service to the ratepayer are certain to result from joint action in such programs as are listed below:

- Save the Soil Campaigns
- Better Farming Competitions
- Community Seed Cleaning Plants
- Bang's and T.B. Control Campaign
- Coyote Control Campaigns
- Short Courses and Field Days

District Agriculturists attended 228 regular Service Board meetings and helped the Board with the supervision of 92 farms.

Farmsteads and Horticulture

The District Agriculturist recognizes the family as the center and heart of any successful farm. Help is given on many occasions towards increasing the comfort, pleasure and utility which can be derived from a well planned farmstead.

Farmstead Statistics

No. of farmsteads planned	308
No. of shelterbelts planned	538
No. of trees ordered through offices	962,627
No. of farms assisted with tree planting	109
No. of persons otherwise assisted	2,523

Beekeeping

Assistance in this field is mainly directed towards help in ordering packaged bees and supplies, and in maintaining a liaison between the beekeeper and our Apiculture Branch. Two hundred and forty-nine persons were given assistance through correspondence and interviews.

Agricultural Engineering

This subject probably rates first in popularity for discussion at short courses and field days. Farmers are very conscious of any means of cutting down labour or improving the efficiency of production. One hundred and three short courses or field days were organized to deal primarily with this subject. These were attended by 7,967 persons. Through correspondence and interviews, at total of 2,264 persons were given assistance.

Agricultural Short Courses, Meetings and Field Days of a General Nature

Attendance figures attest to the popularity of this type of extension effort. Many public and commercial organizations have given support to these programs. Three hundred and ninety-two short courses or field days of a general nature were conducted during the year. These were attended by 32,208 persons.

Farm Labour

District Agriculturists made 663 visits on behalf of agricultural workers coming into this Province as immigrants. They placed 1,521 harvesters and 841 general farm workers. They assisted 491 unemployed farm workers to obtain work in other industries. Our offices continued to co-operate with the Dominion Department of Labour and their Regional Officers in all matters pertaining to farm labour.

Newspaper Articles, Publicity

Excellent co-operation has again been received through the city and weekly press and through radio stations in obtaining publicity for progressive agricultural programs. District Agriculturists often provide background information and material for many newspaper and radio releases.

Newspaper articles or columns prepared	1,509
Radio releases prepared	127

Agricultural Fairs and Societies

Assistance is given throughout the summer months by helping with the organization and operation of fairs, helping to locate judges and acting in the same capacity, and by helping to obtain entries and displays. Our offices are having some success in having

Agricultural Societies engage in additional activities beyond the usual fairs. The farms and home improvement program is an example and is gaining in favour among these Societies.

Master Farm Family

This program is materially assisted through the offices of the District Agriculturists. They receive nominations, act as judges on the local committees and give publicity to the program. They also assist in organizing community recognition when awards are made.

Dams and Dugouts (Peace River District Only)

No. of dams or dugouts inspected under policy

115

Miscellaneous

District Agriculturists are engaged in many other activities, too numerous to outline in detail. A few of these include acting on Veterans' Land Act Committees, Irrigation District Advisory Committees, and helping to organize Rural Electrification Schools. They helped organize sheep shearing schools, rabies control campaigns and swine improvement clubs in co-operation with the Dominion Production Service.

In addition to all this, they take their places as citizens in the communities in which they live and often take an active part on school and hospital Boards and other civic bodies.

Summary of District Agriculturists' Activities

	1953	1952
Number of meetings	3,332	3,136
Attendance at meetings	184,322	189,375
Farm Visits	24,936	25,008
Office Interviews	55,023	51,307
Telephone Calls	51,745	46,834
Letters Written	45,682	41,416
Bulletins distributed	104,797	103,697

IRRIGATION DIVISION

The land development and irrigation extension work progressed very satisfactorily and provided a large measure of service to new settlers on the S.M.R.D. The season's field work started off with a nucleus of experienced men, resulting in much greater progress compared with previous years. Willing co-operation between all staff members resulted in greater accomplishment than was otherwise possible.

Weather conditions were generally favourable for field work and made it possible to continue up until December 24th. The greater amount of field work accomplished kept the staff in the field rather than in the office and prevented the completion of much of the necessary office and drafting work. A considerable backlog of this unfinished work remains to be done by the crew during the cold weather. A larger staff than usual has been kept during the winter to make this possible.

The training and supervision of new staff members still requires a large amount of time during the early part of the season.

Land levelling records show a positive improvement in the amount of work accomplished when compared with 1952. More detailed work was done on lesser areas with a view to making possible a greater degree of irrigation efficiency. Complete land levelling work on much of the land is considered too costly and

hardly justified at the present time. The main objective has been to demonstrate the value of careful preparation of irrigated lands. If the demonstration is successful, the farmers will want to have further land levelling work done as and when they can finance this operation.

The heavy land levelling equipment worked only one shift per day as compared with 1952. Better supervision of the equipment provided a higher ratio of dirt moving time, compared to the total hours worked by the operators. One new rubber tired diesel farm tractor with a 4½ yard scraper was added to the other units this year. This additional unit proved more flexible and adaptable for long hauls and small earth moving jobs. Its higher speed and flexibility shows up to advantage on the above-mentioned type of work when compared with the slow moving track-type tractors.

Assistance to the Colonization Manager of the S.M.R.D. consisted of land inspections for settlements, classifications and reports for pump irrigation purposes, and acting as consultant to his Advisory Committee. These duties have required a continuous amount of field and office work which correlates quite satisfactorily with ditch survey and land levelling work.

Almost all of the work of the Extension Irrigationist is confined to the development of lands of the St. Mary and Milk Rivers Projects. Services were extended beyond the Project Development area but preference of service was first to the Project and secondly to other requests.

A much larger area of land will require water during 1954, as most of the laterals are completed or will be completed early in 1954. Many farmers will likely require water service during 1954. Provision will have to be made for advisory service to the farmers in the matter of handling irrigation water for the first time. This can only be done by men who have had practicable farm irrigation experience.

Consideration is being given to the use of aerial photography to speed up the surveying and mapping of irrigable lands.

Staff

Extension Irrigationist	C. J. McAndrews	Permanent Staff
Survey Supervisor	S. Noreika	Permanent Staff
Stenographer	P. Boyda	60 days service
Instrument Men	Service in terms of man-days	1,060
Rodmen	Service in terms of man-days	1,340
Staff on land levelling employed by S.M.R.D.	Service in terms of man-days	578

Land Levelling Statistics

Jobs done by Alberta Department of Agriculture Equipment—Total	1,700 acres	40,000 acres
—Worked under Colonization Program	19	35
—Worked on privately owned lands	12	
—Jobs which were not land levelling (dugouts, construction, etc.)	4	
Jobs done by privately owned equipment:		
—Worked under Colonization Program	3	
—Worked on privately owned lands	8	
Total Land Levelling Jobs Performed		46
Area Improved by Land Levelling—Department Equipment	1,700 acres	
Average Cost Per Acre Improved	\$13.52	

Survey Service

Number of quarter sections surveyed and mapped for location of farm ditches and classifications	296	
Approximate number of irrigable acres in above survey . . .	30,000	
Number of quarter sections surveyed for ditches and not mapped	55	
Approximate number of irrigable acres in above survey . . .	5,000	
Number of reclassification surveys	15	
Approximate number of irrigable acres in reclassification surveys	1,000	
Number of surveys for land levelling	45	
Number of irrigable acres surveyed for land levelling	3,000	
Number of surveys for pump irrigation and classification time	12	
Number of irrigable acres surveyed for pump irrigation . . .	1,000	
Number of boundary line surveys	5	
TOTAL number of surveys		428
TOTAL acreage surveyed		40,000 acres
Number of quarter sections on which the ditches were marked with a plow by this service		203

Inspection of lands

Number of quarter sections inspected for settlement purposes for Colonization Manager	95	
Number of quarter sections inspected for pump irrigation reports to Colonization Manager	25	
Number of quarter sections inspected for classification purposes	296	
Miscellaneous inspections	5	
TOTAL inspections		421

Office Work**Drafting:**

Number of maps of quarter sections drafted as original plats	153	
Number of plats drafted as tracings	141	
Number of Plats drafted as pencil copies	29	
Miscellaneous project maps	2	
TOTAL maps and plans drafted		325
Number of prints made from drafted tracings		1,013

Reports Prepared

Number of soil reports	175	
Number of land levelling estimates	56	
Number of temporary classifications	27	
Number of classification reports	153	
Number of reclassification reports	32	
Number of pump irrigation reports	23	
Summary reports on land levelling	10	
Special reports prepared and miscellaneous reports	20	
Annual report	1	
TOTAL reports prepared		497

Reports Issued

Reports to land owners	130	
Reports to Colonization Manager	208	
Special Reports and Miscellaneous Reports	30	
Reports to Veterans' Land Act	12	
TOTAL reports issued		380

Maps Prepared and Issued

Maps to land owners	133	
Maps to Colonization Manager	269	
Maps to Veterans' Land Act	14	
Maps to Taber District Agriculturist	173	
Maps to Taber Irrigation District	110	
Maps to S.M.R.D. and O and M	62	
Maps and plans to others	27	
TOTAL maps issued		788

Land Levelling Statements

Issued to Colonization Manager	81	
Issued to S.M.R.D. accounts	81	
Land Levelling Designs worked and computed	48	
Circulars, letters, etc.	462	

Sprinkler Irrigation

System completely designed and issued	1	
System design assisted with	24	

General

Bulletins and Circulars distributed	555	
Mimeographed notes on irrigation prepared and issued to students at Olds School of Agriculture and others	82	
Number of Colonization tours and meetings attended	6	
Number of other committee meetings including A.I.A. and A.I.C.	11	
Number of farmers meetings, demonstrations or field days attended	27	
Miscellaneous meetings	5	
TOTAL meetings attended		49
Approximate total attendance		3,528
Number of talks given at meetings	8	
Short Course in irrigation at Olds School of Agriculture:		
Number of Lectures	24	
Number of Students	62	
Number of farm visits	308	
Number of Office Interviews	396	
Number of Phone Calls	581	
Number of letters written	412	
Number of time slides or irrigation shown	5	

WOMEN'S DIVISION**FOODS AND NUTRITION****School Lunch Program**

The School Lunch Program is gradually gaining strength. The preparation of material for a new School Lunch Bulletin, started several years ago, has been completed and the bulletin will be ready for publication early in the New Year. It suggests methods for the organization and operation of a hot lunch program and shows how such a program may be correlated with the usual school activities. Much of the material in this bulletin has been made available to schools organizing programs during the last year, along with the school lunch recipes compiled in 1952.

Nutrition Study Groups

As in 1952, no special effort has been made to organize nutrition study groups, but the spontaneous organization of an occasional group shows a growing interest in food and health. Three study groups, with a total membership of 80, were organized in 1953. Requests were received and study material sent to three other groups.

Work with 4-H Food Clubs

A considerable portion of the Extension Nutritionist's time has been spent in work with Girls' Food Clubs. Eighty-six clubs—21 Food Clubs with a total membership of 299 and 65 Garden Clubs with a total membership of 813, have completed projects including meal planning and food preparation. Both food and garden project work includes the keeping of personal records of nutritional health and food habits, showing any improvement which has been made.

A two-day course for Food Club Leaders was planned and conducted by the Extension Nutritionist. She also gave demonstrations and suggestions to the Garden Club Leaders at their Annual Leaders' Course. Contact was maintained with these clubs during the year through several newsletters to all clubs.

Other Activities

A total of 48 lectures and demonstrations on food and nutrition topics were given by the Extension Nutritionist with a total attendance of 3,772. These included 3 cooking school programs, 1 Convention and 1 Short Course program, 8 meetings with Food Club

Leaders, 2 Junior Club Week programs and 12 meetings with food clubs, 3 lectures to Civil Defense Home Nursing Groups, 3 demonstrations to Home and School Associations, and lectures to other adult groups.

Correspondence has included replies to 58 requests for specific information. As in other years the greatest number of requests have been problems of home canning and other methods of food preservation. Other requests have included those for recipes and other information on special diets, problems of home baking, information on the use of rose hips, food spoilage problems, the comparative value of different cooking utensils, food buymanship and the use of left-overs. Each year numerous requests are received from teachers and students for information about our services and general information on food and nutrition.

One radio program on planning the family garden was prepared and presented with the assistance of the Supervisor of Horticulture. Twenty newspaper items were prepared for the Agricultural Notes.

One of the chief duties of the Extension Nutritionist is to provide information on food and nutrition topics to the District Home Economists. This is done through circular memos, newsletters, personal letters, office interviews and field work with individual Home Economists.

The Extension Nutritionist attended a two-week workshop on Food Preservation at Washington State College, Pullman, Washington.

HOME DESIGNING

Remodelling

The trend in rural housing today seems to be toward the remodelling and modernizing of older homes. This tendency was noticeable last year and is still a major part of the work done by the Home Designing Office. New building products and finishing materials have proved to be an attractive and economical incentive to alter and improve existing homes.

The bulletin, "Farm House Remodelling", which was distributed to 360 people, also helped to foster interest in remodelling. The ideas presented in the booklet made people aware of the possibilities of remodelling as an alternative to building new homes. Remodelling plans were drawn for 143 homes. Thirty-eight homes were altered with additions and major structural changes; 42 kitchens were modernized and 63 living areas were furnished and decorated. Several of these remodelled homes were used as examples; meetings were held in the homes and the modernization was studied. One newsletter concerning this subject was sent to 400 persons.

Kitchen Planning

The bulletin, "Farm Kitchens and Utility Rooms", was issued to 740 remodellers and prospective builders. Forty-two kitchens were remodelled and eleven kitchens were planned for new homes. Plans and cabinet details were prepared in each case. Perspective drawings were also presented to help the client visualize the completed kitchen. Ten blueprints of Step Saving U-kitchen were sold. Thirteen kitchen clinics—aggregate attendance 714—were held and films and slides were shown on the arrangement of con-

venient kitchens. A newsletter concerning labour saving kitchen plans was sent to 400 persons.

Home Planning

Although the trend was toward remodelling, 57 blueprints for new homes were sold, a slight increase over last year. The bulletin, "Farm House Planning", was distributed to 350 people. Eleven lectures were given on home planning with aggregate attendance of 667. There is a lack of illustrative material for this particular topic and as a result home visits have proved to be a more successful way of teaching good planning practices.

Information on building materials was sent to 153 people and five home planning newsletters were sent to 2,000.

Home Furnishings and Electrical Equipment

Better buymanship was emphasized in the realm of kitchen and utility room finishing and decorating materials. Eleven lectures were given on the buymanship of floor coverings, counter topping, curtaining, paint, wallpaper and wall finishes. These were attended by 473 persons. Three newsletters covering these topics were distributed to 1,200 persons.

Four lectures on electrical appliances were given in conjunction with the Rural Electrification Schools, with attendance of 455.

Interior Decorating

Attendance was 1,333 at twenty-six meetings held to deal with many phases of interior decoration. Three groups studied the Interior Decoration Course.

Other Activities

A three-day Interior Design School was arranged in conjunction with the Canadian Women's Press Club (Edmonton). Interior Designers and architects were guest speakers and Edmonton firms arranged home decorating exhibits. A large attendance of rural and city women—1,035—made this venture successful.

Twelve newsletters on various phases of rural housing and interior decoration were distributed to a mailing list of 400.

Four radio interviews were given concerning the work done by this office.

Interior Decoration Work Shops were held with the District Home Economists to prepare talks and demonstrations on "What is Good Design" in tableware, furniture and handicrafts.

New slides were prepared for the talk "Farm Kitchens and Utility Rooms" and other illustrative material was gathered for lectures and demonstrations on home planning, remodelling and interior decorating.

DISTRICT HOME ECONOMISTS

Personnel as of December 31, 1953

Brooks	Mrs. Norma Gray	Lethbridge	Lila Engberg
Calgary	Lillian Popoff	Red Deer	Marian Dixon
Camrose	Nancy Hooper	St. Paul	Elizabeth Bartman
Edmonton	Priscilla Mewha	Stettler	Margaret Fargey
Edmonton and at large	Margaret Jackson	Vegreville	Marion Inglis
Grande Prairie	Patricia Seldon	Wainwright	Shirley Holms
Hanna	Lorraine Shatz	Westlock	Joyce McCutcheon
		Wetaskiwin	Mona Breton

Resignations

Bertha Eggertson	Westlock	Priscilla Mewha	Calgary
Grace Melnyk	Vegreville	Ruth Whaley	Edmonton

Leave-of-absence

Margaret Smith	Red Deer
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Appointments

Marian Dixon	Red Deer	Priscilla Mewha	Edmonton
Nancy Hooper	Camrose	Margaret Jackson	Edmonton and at large
Marion Inglis	Vegreville		
Joyce McCutcheon	Westlock		

Transfers

Lillian Popoff	Camrose to Calgary
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The District Home Economists report a busy year with an increase in the number of demonstrations and lectures. However, due to the resignation of four of the more experienced District Home Economists, the quantity of work accomplished in some sections requiring experience was slightly lower than last year. The Home Economists continue to report many requests for demonstrations and assistance which cannot be met for several months.

Assistance during the summer months from the Home Economists at the Schools of Agriculture was again limited. Of the eleven Home Economists, four resigned and only three of the others had previous experience in Extension.

Clothing and Home Sewing

Due partly to the higher cost of clothing, there is a marked increase in requests for information on clothing and textiles, on economical buying and on home sewing to get two for the price of one.

One hundred and twenty-three sewing clinics were attended by 4,781 women. These varied from 2 to 5 days with 366 sessions being held. Holding of pre-clinic meetings is now standard practice for guidance in choice of pattern and fabric and for better results and use of time at the clinics.

Lectures and demonstrations were given on related topics as follows: "Use and Care of the Sewing Machine"—55; "What is a Good Fit", "Dress Trims and Finishes", "Speed Sewing", "Wardrobe Planning"—49; "Choice and Use of New Textiles", "Remakes", "Sewing Tips", "Sewing for the Home"—141; "Making Dress Forms"—18; with a total attendance of 8,621. Also, 133 lectures and demonstrations on clothing and sewing were given to Girls' Clubs.

Sixty-seven newspaper articles were prepared on topics related to clothing. Through home visits and office interviews 1,032 individuals were assisted with sewing problems.

As evidenced at fairs and local displays, women are not only doing more home sewing but the quality of their work is improving. They are becoming more expert in buying materials and in choice

of design for a balanced wardrobe. Much still remains to be done as the Home Economists report the largest percentage attending sewing clinics are beginners.

Housing

Each year brings more requests from the rural population for assistance in building new homes, remodelling existing homes and home beautification. As this service is comparatively new it has taken time for the public to become aware of it, but the steady increase in the demand for group and individual assistance has proved most encouraging. Four hundred home visits were made and a total of 3,641 individuals were assisted in all allied fields of home modernization.

This year the trend in rural housing has turned from building new homes to remodelling the interior and exterior of old homes. Although 117 new homes were planned, 100 homes were altered completely and 172 partially improved—81 new kitchen arrangements, and 91 modernized living areas. Twenty home planning lectures with a total attendance of 1,003 was a great increase over past years. Inquiries regarding other aspects of housing were increased this year also.

The new bulletins on housing prepared by the Prairie Rural Housing Committee have proved invaluable as a source of information for the public as well as the Agricultural Extension Staff. The bulletin "Farm House Planning" was distributed to 350 prospective builders, 360 remodelers received the "Farm House Remodelling" bulletin, and 740 copies of the "Farm Kitchens and Utility Room" booklets were issued.

A further breakdown of this report indicates that 79 individuals sought information on building materials. Information from this Division provides a guide to inexperienced home builders in the wise and economical choice of many new building materials.

Rural Electrification Schools were conducted throughout the Province which promoted intense interest in electricity and electrical appliances for the rural home. Twenty-five meetings (attendance 913) were held on this topic and 114 individuals were assisted through letters and home visits.

With the advent of rural electrification, interest increases in water system and proper heating equipment for the farm home. Thirty-eight individuals were assisted with problems of water systems and 355 bulletins on the treatment of farm water supplies were distributed. Nine individuals were assisted with heating problems and 180 copies of "Heating the Farm Home" were issued.

The Interior Decoration Home Study Course was sent to 3 groups (47) this year. Although this course has not been as widely circulated this year as in the past, the course has proved to be a contact with rural groups that has enabled the Home Economists and Home Designing Specialist to give group and individual assistance in all areas of home improvement.

At 207 meetings, with an attendance of 6,377, lectures and demonstrations were given which covered the various phases of home planning and furnishing, kitchen planning, rural electrification, buymanship of household equipment, home safety and interior decoration.

Foods and Nutrition

Lectures on food and nutrition topics:

Topic	No.	Attendance
Food Preparation and Service	112	3,837
Food Preservation	52	1,715
Buymanship of Foods	12	216
Nutrition and Meal Planning	21	619
School Lunches	147	4,654
	344	11,041

Sixty-five of the above were at meetings of Girls' Food and Garden Clubs with an attendance of 1,764.

The school nutrition program was emphasized again this year in several districts, and more of the Home Economists are planning school visits in the New Year. A total of 93 school visits were made during 1953 for the purpose of giving suggestions and material to help teachers incorporate nutrition into their school programs, talking to children about food and health, and helping to organize lunch programs. The school lunch was discussed with 16 adult groups and 131 groups of school children. Demonstration lunches were packed and mimeographed materials was left with the children to take home to their parents. Several Home Economists also report discussing the school lunch with parents during home visits.

There is a trend toward fewer "talks" and more actual demonstrations in the field of food preparation. As more equipment is made available for demonstration purposes this work will increase. Topics for demonstrations have included "Supper Dishes", "Winter Meals", "Summer Meals", "Meals Quick and Easy", "Salads". Requests have been received for Cooking Schools in 1954.

One hundred and ninety-eight home visits were made for the purpose of giving help with food and nutrition problems. Home Economists report 1,079 individuals given assistance by telephone, letter, or office interviews. Much unrecorded assistance was given after meetings or at fairs or other public gatherings. Help has been given with food storage problems, canning, freezing. All Home Economists report an increased interest in Home Freezing and much advice has been given regarding the selection of freezers and freezing of foods.

The District Home Economist at Brooks assisted as usual with the testing of frozen foods at the Provincial Horticultural Station. One hundred and fifty-three varieties of vegetables, also peaches, apricots, blueberries and apples, prepared in 1952 were tested by a panel of Home Economists in January 1953.

One hundred and eighty-eight newspaper articles prepared by District Home Economists dealt with food and nutrition topics. Further information was given in newsletters to 2,823 individuals or groups.

Girls' 4-H Club Work

The supervision of Girls' 4-H Clubs in the field is carried on by the District Home Economists under the Provincial program. Instruction is given in most phases of homemaking—foods, clothing, home decorating and gardening, and etiquette. Besides this the Home Economists guide the social and community work done by these clubs. An opportunity is provided for contact with the parents and for many home visits.

In 1953 the District Home Economists gave assistance to 169 Girls' Clubs with a membership of 2,177. One hundred and sixty-two achievement days were held with 10,447 people in attendance. The work at all of these achievement days was judged by one or more Home Economists and provided a good opportunity to contact many adults.

District Home Economists assisted in the arrangements for and spoke at 13 Field Days with an attendance of 1,870; 21 rallies with an attendance of 3,027; and 49 tours with an attendance of 1,275. Also, a number of the field staff assisted in supervision and instruction at the short courses, camps and Leaders' Courses held during the summer.

Thirty-three Leaders' Courses were held during the year. These were attended by all the club leaders in the district. District Home Economists gave three radio talks for 4-H Club members. One hundred and forty-seven former club members were given assistance in homemaking, education or vocational problems. On the average, 30 per cent of the District Home Economists' time was spent on club work.

Much of the success of teams attending National Club Week is due to the work done with them by the Home Economists.

The interest in Girls' 4-H Clubs throughout the Province has increased very greatly. In some areas the District Home Economists are unable to organize all the clubs requested.

Home Management

The availability of new types of household equipment has given impetus to the demand for information on this subject. A total of 8,702 women attended 1,285 lectures and demonstrations on "Buymanship and Care of Home Furnishings, Equipment, Textiles and Foods"; 70 on "Saving Time and Energy" and 15 on "Home Safety". In addition, 765 individuals were assisted and 115 newspaper articles on these and related topics were prepared.

Family Relationship

This year arrangements were made for specialists to speak to the women on topics of "Mental Health in Later Life" and "Happy Family Relationships" at 8 short courses. In addition, 10 lectures, attended by 704, were given on "Child Guidance" and "Happy Home life", and 28 individuals were given guidance.

Handicrafts

One hundred and sixty demonstrations attended by 4,500 women, were given on crafts of practical and lasting value such as rugmaking, leathercraft, textile painting, copper work, gift and bazaar ideas. Two hundred and forty received individual assistance, 4 of whom earn their living from crafts. Interest in craft work is so extensive the Home Economists must limit the time spent on this in order to meet the demands of other more basic fields of service.

Other Demonstrations and Lectures

Topic related to etiquette, table setting, entertainment, special occasions and flower arrangements were given at 62 demonstrations attended by 2,050 women; also 9 newspaper articles were prepared and 217 individuals assisted.

There were 158 general talks outlining the services of this Branch, as well as 89 dealing with Women's Work, 149 with Girls' Club work and 108 on the Schools of Agriculture, the total attendance being 16,587, Specific information was given 1,173 persons.

Short Courses, Field Days and Meetings

District Home Economists assisted in organizing, lecturing and demonstrating at 210 short courses and field days, 130 being in co-operation with the District Agriculturists; 18, the Canada Department of Agriculture; 9, the University Extension Service; and 36, Agricultural Service Boards. In addition, 39 meetings were at the request of other organizations such as the Rural Health Units, Red Cross, Department of Indian Affairs, Canadian Association of Consumers, Department of Education, Exhibition and Fair Boards, Locker Plant Association, etc. Advice and assistance is also sought by such local organizations as Relief Services, School Boards, Social Service Clubs, etc.

The Home Economists are called upon to assist in arranging programs and entertainment at conventions of Provincial and National organizations, e.g. Municipal District Convention, Provincial Seed Growers, Provincial Beekeepers Association, Frozen Food Locker Association, Farm Women's Union, Women's Institute, Social Credit and Home and School Associations. This year the Department co-operated with the Women's Institute in arranging and supervising a tour of the Province by members of the Associated Country Women of the World.

Judging at Fairs, Conventions and Conferences

District Home Economists judged at a total of 137 fairs, conventions and conferences as well as 162 achievement days. Most of the fairs are judged by outside judges arranged for through this Department, since the Home Economists are seldom free at "fair" time.

"Standards for Judging" was discussed at 50 meetings. Assistance was given to several Fair Boards and the Women's Institute in revising their prize lists. Thirteen fairs were assisted in organization, and 27 exhibits were prepared for fairs and conventions.

Radio, Newspaper Articles and Newsletters

Home Economists gave 67 radio addresses and interviews, 17 of these from Grande Prairie. The decrease from last year is due to the discontinuance of the Farm and Home Broadcast. In addition, news notes are prepared for use on "Call of the Land".

Seven hundred and three newspaper articles were prepared for 49 local weeklies in the Home Economists' districts. Twelve of the Home Economists prepare regular weekly columns. The Home Economists have prepared 109 newsletters with a circulation of 4,776 having timely information and announcements of new programs, services and publications.

Other Activities

The Home Economist assisted in scoring 21 farm families nominated to the Master Farm Family Award and also assisted in the regional judging.

Considerable assistance was given 65 families entered in the Farm and Home Improvement competitions in four districts.

Summary of Activities

	1952	1953
Number of Demonstrations	2,138	2,325
Field Days and Short Courses	220	210
Total Attendance at above	95,087	112,347
Average Attendance	40	44
Judging at Fairs, Conventions	130	155
Radio Addresses	102	67
Publications distributed	89,913	95,731
Letters requesting information	15,415	15,809
Home visits	2,942	2,930
Girls' Clubs	151	169
Office Interviews	3,814	4,659
Phone calls for information	7,807	8,111

Report of Veterinary Services Branch

E. E. BALLANTYNE, V.S., D.V.M., Director
J. G. O'Donoghue, V.S., D.V.M., Extension Veterinarian
C. H. Bigland, V.S., D.V.M., D.V.P.H., Veterinary Pathologist
G. S. Wilton, V.S., D.V.M., Veterinary Pathologist
H. N. Vance, V.S., D.V.M., Veterinary Pathologist
F. E. Graesser, B.S.A., V.S., D.V.M., Micropathologist

General

The disease picture was not serious during the year except rabies and swine erysipelas. Rabies was brought relatively under control as described later. For some unknown reason, the causative organism of swine erysipelas appeared to increase in virulence, causing widespread outbreaks in Northern and Central Alberta. A similar apparent increase in virulence was reported also from Northern Ireland two years ago, but since has returned to normal.

The preventative and control measures concerning brucellosis of cattle are giving results, as reports are seldom received of heavy calf losses. Such were quite frequent a few years ago.

One item of some concern is that several cases were reported where resistance to blackleg and allied infections has broken down following vaccination.

Field investigations, reports from veterinarians and work at the laboratory point up the fact that faulty livestock management and feeding are the basic cause of the development of many diseases. There are problems to be solved by research, but still at the same time, better application of presently known facts would reduce the disease loss considerably.

The work of the Branch again increased, necessitating the employment of Dr. H. N. Vance as another pathologist at the laboratory to help in the poultry section during the Spring rush, and later in the animal section.

Rabies

The disease became very widespread during the Winter, occurring in practically every section of the province. Fortunately, most of these cases were individual and not general, so that the disease did not become endemic. Infested wildlife was the main problem with the spread of the disease.

In January it became evident that the infection would, in all probability, be spread further South by the wildlife. A Central Rabies Control Committee composed of the following personnel was established:

Dr. E. E. Ballantyne—Chairman
Dr. A. J. Ratray—Representative, Alberta Veterinary
Medical Association
Dr. W. L. Falconer—Chas. Camsell Indian Hospital
Dr. C. E. Anderson—Department of Public Health
Dr. G. M. Little—City of Edmonton
Mr. E. S. Huestis—Department of Lands and Forests

Mr. R. I. Eklund—Indians Affairs
 Dr. R. B. Catt—Health of Animals Division
 Supt. F. A. Regan—Royal Canadian Mounted Police

The purpose of the Committee was to co-ordinate the work of Federal and Provincial Governments and/or Branches involved. For example, the Provincial district agriculturists organized the dog vaccinating campaign North of 55° for the Federal Health of Animals Division inspectors, which greatly speeded up the work.

The following are brief items of interest concerning rabies:—

1. The following list gives the species and number of animals infected in Alberta (Diagnosed officially at the Federal Veterinary Research Laboratory, Lethbridge).

	Officially Diagnosed (June 1952-Dec. 31, 1953)	Estimated Actual Cases in Livestock
Cattle	10	70-100
Hogs	5	150-200
Horses	0	20- 40
Sheep	2	20- 30
Dogs	30	"
Cats	8	"
Bear	1	"
Beaver	2	"
Coyote	18	"
Fox	23	"
Lynx	3	"
Moose	1	"
Rabbit	1	"
Weasel	1	"
Wolf	1	"
Total	106	260-370

NOTE: The main losses in domestic animals occurred in the Ft. Vermilion, Keg River, and Athabasca districts.

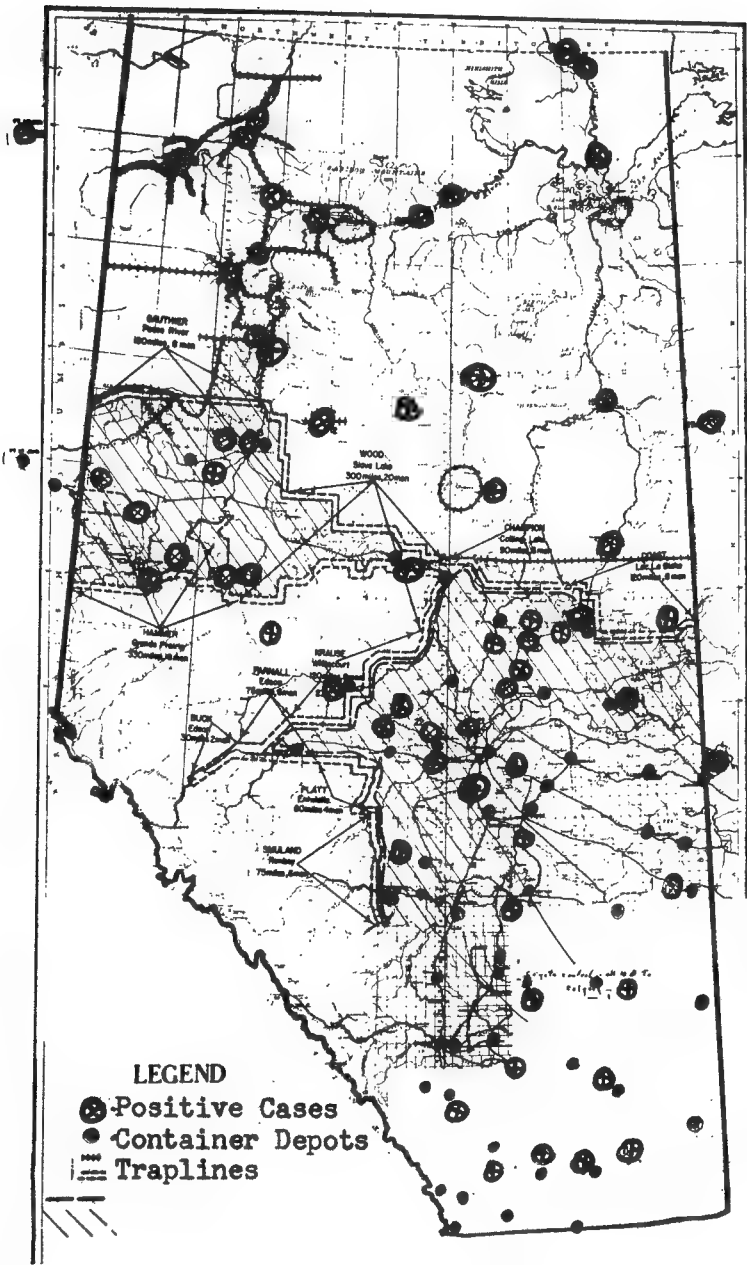
2. The Federal Health of Animals Division finally quarantined all dogs in Alberta due to the spread of rabies. In the Fall this was relaxed to 53° and North. The Provincial Government assisted by requesting all city, town, village and municipal councils to pass by-laws to assist the Federal Government.

3. The Federal Health of Animals Division vaccinated approximately 14,000 dogs North of 55° in the Winter. They were assisted by the R.C.M.P. and Forest Rangers. These were re-vaccinated in November and December.

4. An extensive educational program was carried out to acquaint people with the disease and it is worthy to note that over 200 people took the Pasteur treatment, as practically every bite or exposure was reported. No human cases of rabies developed. Over 19,000 bulletins were distributed, radio talks given, and articles published in the press. The co-operation from the press and radio was excellent and praiseworthy. A large number of meetings were held to acquaint people with the disease and dispel many false impressions.

5. The Provincial Department of Lands and Forests, who were supervising the traplines through the Forestry Division, expanded the traplines extensively on March 1st until practically 5,000 miles were in operation (For location see map.) The following wildlife kills (1953) no doubt played a major part in drastically reducing the disease.

Fox	Approximately	40,000
Wolf	"	4,000
Coyote	"	15,000-18,000
Bear	"	2,000
Lynx	"	3,800
Cougar	"	30-40
Skunk	"	500



6. Approximately 40,000 to 60,000 coyotes were killed in the agricultural areas; rabies added impetus to the regular coyote control program when some became infected with the disease.

7. Due to a scarcity of wildlife in the forests in the Fall of 1953 and the concentration of predators bordering and/or in settlements, the emphasis for destruction of predators as a rabies control measure shifted from the forest to agricultural districts. During the last four months of the year, sporadic positive cases occurred in the Athabasca to Weasel Creek district, Peace River, Keg River and Ft. Vermilion areas. Why practically no cases occurred when cattle were at Summer pasture is hard to explain. The distribution of poisoning materials has been very heavy by the Provincial Department of Agriculture and is explained under the report of the Field Crops Branch.

8. Approximately 325 specimens were received at our laboratory from depots in Northern Alberta for icing and transshipment to the Federal Veterinary Research Laboratory, Lethbridge, where the official diagnosis was made.

9. A detailed report of the outbreak is being prepared for publication.

Equine Encephalomyelitis

Approximately 20 cases were reported from widely separated areas in the province, which is 15 more than usual. There was no epidemic in Alberta as reported in Saskatchewan and Manitoba. It is doubted that an epidemic will occur in 1954 as there is not a heavy enough concentration of horses.

T. B. Restricted Areas

During the year, this Department completed petitioning, with the result that the Federal Department of Agriculture gazetted the whole of Alberta as a T.B. Restricted Area in October.—A municipality is officially declared a T. B. Restricted Area when general testing commences, at which time all regulations come into effect.

In 1953, the Federal Health of Animals Division commenced testing in four more municipalities and/or Local Improvement District; namely, M.D. of Waterloo No. 56, M.D. of Bright No. 16, M.D. of Provost No. 52 and L.I.D. No. 65, making a total of 33 in effect as of December 31, 1953. Approximately 119,000 cattle were tested by the Federal Inspectors during the year, of which there were 136 reactors (.114%).—Besides testing in the Restricted Areas, approximately 13,000 cattle, of which there were 15 reactors (.115%), were tested as Advanced First General test in Municipal Districts, etc. that have been petitioned so that owners could get compensation if reactors were found and to facilitate the movement of cattle.

BRUCELLOSIS CONTROL

(A) Calfhood Vaccination Program

The total number of calves vaccinated during 1953 was 147,483. This is a further substantial increase over the 1952 total of 132,026, which was slightly out of balance due to a heavy carry-over from 1951 on account of adverse Fall weather then.

The large number of calves vaccinated was possible through the fine co-operation of the veterinarians, livestockmen and organized campaigns sponsored by the Department and Municipal authorities.

(B) Brucellosis Restricted Areas

There are now twelve municipalities operating as such areas, namely: Starland No. 47, Wainwright No. 61, Vermilion River No. 71, Minburn No. 72, Beaver No. 73, Strathcona No. 83, Camrose No. 63, Athabasca No. 103, Pincher Creek No. 9, Lamont No. 82, Wetaskiwin No. 74 and Mountain View No. 49. The latter three were new for 1953. There are approximately 50,000 to 60,000 heifer calves to vaccinate in these areas alone. Several more municipalities are interested in adopting this 100% calfhood vaccination program.—Both Starland and Wainwright have vaccinated four calf crops and report very good satisfaction with the program, although it is early to be too definite.

(C) Diagnostic Service

The number of agglutination tests for the diagnosis of bovine brucellosis totalled 14,331, which is a reduction of approximately 3,098 from the 1952 total. This was not unexpected, as other laboratories in the past have shown the same reduction when the calfhood vaccination program gets well underway. Our emphasis has been to promote vaccination as providing the most value to the cattle industry at present, not blood testing. Again a high percentage of tests were made to find out if the milk was safe to drink as cattlemen are anxious to protect their families from undulant fever.

The following chart shows the result of blood testing in the animal section of the laboratory.

**BLOOD TESTS FOR BRUCELLOSIS (BANG'S DISEASE)
1953**

	Provincial Blood Tests	Per- centage	Dominion Blood Tests	Per- centage	Total	Per- centage
Number Positive	1,400	9.8%	4	6.3%	1,404	9.8%
Number Suspicious	749	5.3%	2	3.3%	751	5.3%
Number Negative	12,016	84.2%	57	90.4%	12,073	84.2%
Number Broken or Hemolyzed, Etc.	103	.7%	—	—	103	.7%
Total Number of Blood Samples	14,268	100 %	63	100 %	14,331	100 %

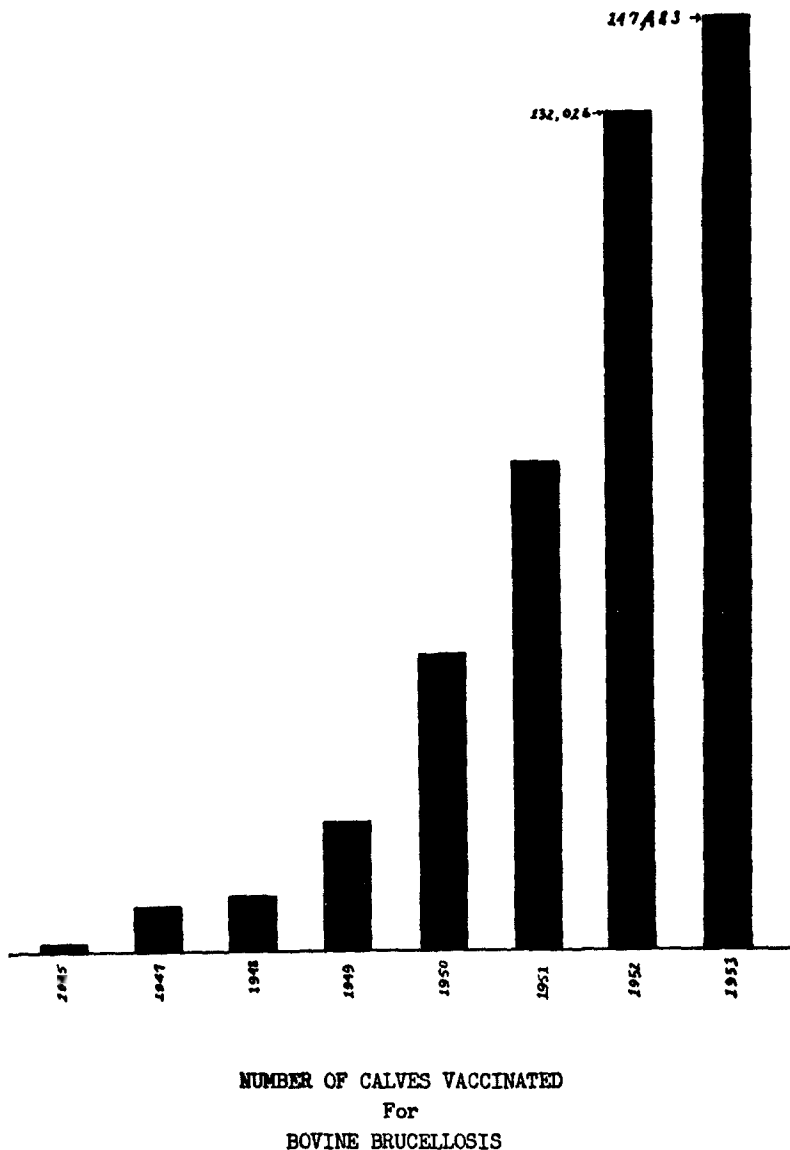
(D) Educational

Again a large number of meetings were addressed on brucellosis so that cattlemen will be conversant with the disease and the necessary preventative measures. Radio talks were given, articles written for livestock journals, and press releases issued. A large number of enquiries were answered and bulletins distributed.

Mention should be made that a concentrated publicity campaign was made through the press by providing 10 articles for the District Agriculturists to have printed in local papers.

Shipping Fever of Cattle

Losses during 1953 were very light compared to those of the Fall and Winter of 1951-52. No doubt much of the improvement can be attributed to the good weather, as cold, damp weather produces wet corrals, etc. which lower an animal's resistance.



This Branch co-operated with an Ontario Shipping Fever Research Committee on shipping feeder cattle to Ontario. Due to circumstances, it was only possible to handle a small number of feeders. Some were given bacterin two weeks prior to shipping, some were injected with anti-serum and some left as controls. A complete report is not available at this time. It is hoped that a major research program will be undertaken in Canada shortly in an effort to find means of reducing the loss from this disease. There are many unknown factors at present.

The practice was again followed of supplying cultures of *Pasturella* bacteria isolated from shipping fever cattle to the Ontario Veterinary College and the Federal Department of Agriculture for

basic research on the causative organism. *P. hemolytica* was again isolated from a few cases.

The Federal Department of Agriculture, through their Health of Animals Division, again supplied serum free of charge for feeder cattle going through the Calgary, Lethbridge and Edmonton stockyards.

Veterinary Students

The following is the number of Albertans attending the Ontario Veterinary College:

First Year	4
Second Year	2
Third Year	3
Fourth Year	4
Fifth Year	4
TOTAL	<u>17</u>

The Department pays a \$200.00 grant to each on successful completion of the year's examinations.

Extension Activities

The extension activities, under the direction of Dr. J. G. O'Donoghue, are varied including lectures at the University of Alberta and Schools of Agriculture, supervision of the health of Government herds, investigational trips, addressing meetings and supervision of various livestock disease control programs of the Department. The following is a brief report of these activities:—

A. Investigational and Service Trips

Cattle	75
Sheep	11
Swine	34
Horses	8
Fur Animals	11
TOTAL	<u>139</u>
Meetings Addressed	67
Radio Talks	9

B. Health Programs

The following are brief reports on Departmental animal health programs not previously reported and remarks on a few investigations.

1. Cattle

(a) Vitamin A Deficiency

From February through to June numerous losses were reported in beef calves and some yearlings from Vitamin A deficiency. The losses were far in excess of what might be taken to represent the normal annual loss in Alberta. In new born calves the deficiency was evidenced by weakness at birth, scours and early death. In older calves, symptoms of nervous derangement, convulsions and eye lesions were most marked. In yearlings and older animals nervous derangement, decreased appetite, weakness and impaired vision were the most frequent symptoms. It is difficult to explain the increased incidence of the deficiency. The quality of the hay would be a factor, but it must be recognized that in general terms the quality of winter rations fed to beef cows is not high.

(b) Poisoning at Oil Well Sites

There were a number of cases of poisoning in cattle from lead picked up from oil well sites. Such sites are a potential source of

danger to livestock and they should be recognized as such. The probable source of the lead is the red lead compound used on well casing joints. There is the possibility that there are other substances present at well sites that are toxic to livestock. This matter is under investigation at the present time.

(c) Abortion

There were a number of abortions reported from herds that had been vaccinated with Strain No. 19 Brucella vaccine. Thorough investigations are made in such cases. Brucellosis was not the cause but there was sufficient evidence to incriminate *Vibrio fetus*—an organism causing what is termed Vibrionic Abortion. Efforts are being made to determine the incidence of this disease in Alberta.

(d) Malignant Catarrah

This is a virus disease of cattle not previously reported in Alberta. An atypical outbreak of the disease was investigated in the Wetaskiwin district. Malignant Catarrah is a sporadic disease and does not appear in epidemic form.

(e) Provincial Mastitis Program

In addition to the individual milk samples that are examined routinely at the Veterinary Laboratory a herd owner may, if he wishes, have his entire herd tested under what is termed the Provincial Mastitis Program. Arrangements are made between the herd owner and his veterinarian. The Department supplies the sampling vials and herd book and the samples are examined free of charge at the Provincial Dairy Laboratory.

There were ten herds under this program in 1953.

2. Swine

(a) Erysipelas

Erysipelas, prevalent in Alberta, assumed epidemic proportions. There were numerous outbreaks of the acute type of the disease in older pigs during the summer months. It does not represent an increased prevalence of erysipelas but rather an increase in the number of outbreaks of acute or septicemic form. A bulletin on the disease was widely distributed to Alberta farmers. Prompt recognition of the disease is the main factor in preventing losses. Early treatment with Penicillin has proven very satisfactory.

(b) Rhinitis

Alberta swine producers as a whole have a good knowledge of rhinitis, a result of the educational efforts of the Department.

The herds or origin of swine going to the Royal Winter Fair were inspected for Rhinitis. All premises inspected were free of the disease.

3. Horses

(a) Encephalomyelitis

There was an increase in the number of reported cases of encephalomyelitis. Three cases were visited by members of this Branch. It did not appear in epidemic proportions in any one locality; the cases were scattered throughout central and southern Alberta.

4. Fur Animals

(a) Mink

Distemper continues to be the most important disease problem in mink.

In 1953 there were 34 outbreaks in contrast to only seven in 1952. The Distemper Vaccine Assistance Plan played an important part in preventing excessive losses as well as reducing the cost of control to the ranchers.

Diseases which might be attributed to errors in feeding or management continue to decline.

(b) Distemper Vaccine Bank

The purpose of the bank is to maintain a readily available supply of mink distemper vaccine. It is supplied to the ranchers at cost price. While the bank has been replaced to a certain extent by the Distemper Vaccine Assistance Plan, in 1953, 6,210 doses of vaccine were supplied to 23 mink farmers.

(c) Alberta Distemper Vaccine Assistance Plan

This plan was first formulated in Alberta in 1950. It is of note that a similar plan has been instituted in one other province and it is under consideration in two others.

Mink ranchers may enroll in the program by making application to the Minister, the application to be accompanied by an assessment of five cents per head for every animal on the ranch as of July 1. The ranchers agree to maintain accepted standards of sanitation and follow disease prevention practices. The plan is in effect from September 1, to August 31 of the following year. It must be renewed yearly.

The Department agrees to supply free of charge mink distemper vaccine for confirmed distemper outbreaks on the ranch of a subscriber. In addition vaccine is available at a 50% reduction of cost to any subscriber within a defined dangerous area of an infected ranch. For the current year 136 mink ranches are enrolled in the Plan.

Period September 1, 1952-August 31, 1953		
Number Distemper Outbreaks	Issued Free	Issued 50% Reduction
19	16,070	350
Period September 1, 1953-December 31, 1953		
Number Distemper Outbreaks	Issued Free	
12	8,250	

(c) Autogenous Vaccine—Mink Distemper

This is vaccine produced from distemper infected mink. The time required for its production makes it impracticable for routine use but it is the practice to prepare it for use on infected ranches following commercial vaccine, when it appears necessary.

In 1953, 19,970 c.c. of autogenous vaccine was supplied to eight fur Farms.

Report of the Veterinary Laboratory

Again the number of specimens submitted for autopsy, microscopic and bacteriological examination has shown an increase as per the following chart:

	1952	1953	Increase
Animals	4,153	4,419	6%
Poultry	4,825	5,348	8%
	<u>8,978</u>	<u>9,767</u>	

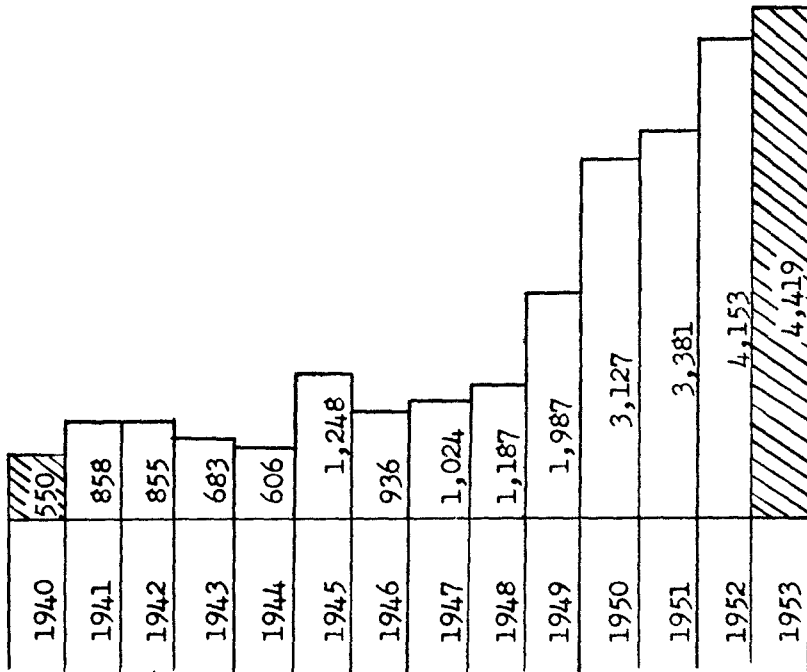
In addition to the above, there were 14,331 blood samples tested for brucellosis (Bang's disease); approximately 35,000 doses mink distemper vaccine distributed; sufficient *Brucella abortus* Strain 19 vaccine to vaccinate the 147,483 calves distributed; and several thousand doses of rabies vaccine stored at the laboratory for the Federal Health of Animals Division dog vaccination program North of 55°.

It is interesting to note that approximately 7,500 first class letters regarding specimens and disease problems were sent out from the laboratory during the year.

The work is varied involving diagnosis of diseases affecting 30 species of animals and 24 species of birds.

Animal Disease Section

This section of the laboratory is under the direction of Dr. G. S. Wilton, who is assisted by Dr. H. N. Vance for the Fall and Winter months.



ANIMAL SPECIMENS

DIAGNOSED SINCE OPENING LABORATORY

The past trend of a yearly annual increase in specimens submitted to this section of the laboratory continues to follow suit. The number of specimens have increased, as well as the number of submissions. The submissions were 2,079 compared to 1,790 last year. This great increase can be accounted for in part by the large number of heads received for rabies examination. There were 294 heads received, 77 of which were found to be infected with rabies.

The main purpose of the laboratory is to give a accurate and rapid diagnosis of disease in order that effective treatment can be applied, thereby saving thousands of dollars for the animal industry. Each animal examined invariably saves the lives of many on that farm or provides information to prevent a repetition of the condition. Example of this would be the diagnosis of Bang's disease, blackleg, malignant oedema in cattle, erysipelas in swine and many others. There were 1,274 cattle specimens and 962 swine specimens examined in a total number of 4,419 specimens received from 30 different species of animal. Such being the case, it can readily be seen that most of the laboratory hours are devoted to cattle and swine.

Nutritional Diseases

Proper feeding and management is all important in preventing heavy losses from nutritional disease. Each year heavy losses are sustained through feeding young pigs rations heavy in oat hulls and other fibre. Pigs up to three months of age are unable to digest this fibre and it is responsible for extensive intestinal damage with resultant deaths, stunting and other complications in pigs from three weeks upwards. These losses are easily prevented through the use of good quality sifted oats in a well balanced ration.

Vitamin deficiencies are common. Vitamin A deficiency was found in 68 swine, 8 sheep and 8 bovine animal submissions. This condition was very prevalent the past year in swine and also in cattle in various areas. The owner often neglected to include a good grade fish oil in the diet of pigs during the winter when green feed is not available. Vitamin A may be depleted from the alfalfa before spring. A Vitamin B deficiency was quite commonly found in mink and other animals.

Rickets was found in 14 mink and 5 swine specimens. The disease is caused by an inadequate intake of calcium or phosphorous, or both, or to a faulty proportion of those minerals in the diet, together with a deficiency of Vitamin D. A deficiency of this Vitamin and calcium is the chief cause of rickets. This condition was more common in mink and swine in Alberta the past year than our table would indicate.

Many young pigs were received at the laboratory suffering from anemia. There were 30 such cases during the year compared to 81 the year previous and 61 in 1951. This points to an improvement, but after years of educational efforts on the prevention of anemia it still exists.

Nutritional anemia was found in 16 mink submissions. The addition of one-half ounce liver daily to the mink ration per animal will, under normal conditions, prevent the disease.

Poisons

Each year many specimens are forwarded to the Provincial Analyst for chemical analysis. The number of the animal disease section of the laboratory the past year was 431. They found 88 cases of poisoning which can be broken down as follows: 29 cases of arsenic poisoning (cattle, swine, horse and dog, 22 cases of which occurred in cattle, most of them coming from near the eastern border of the province in the rat control area), 21 cases of strychnine poisoning (dog, deer and swine), 9 cases of lead poisoning (cattle, swine and dog), 3 cases of mercury poisoning (cattle) and 1 case of nitrate poisoning (cattle). Other poisons that could be mentioned are 1 case of phenothiazine poisoning (swine), 1 case of algae poisoning (sheep), 2 cases of sweet clover poisoning (cattle) and 21 cases of plant poisoning (cattle, sheep and swine).

Laboratory Animals

These animals were used to assist in making a diagnosis, to determine the pathogenicity of the bacteria isolated and for experimental work. They were carefully examined and cultured.

LABORATORY ANIMALS	
Guinea Pigs	266
Rabbits	30
Mice	18
TOTAL	<u>314</u>

Biological Products

Autogenous bacterins and vaccines have been prepared at times throughout the year to help fight certain disease outbreaks in live-stock. The table below lists the products, the amount, the species of animal involved and the disease.

Product	Amt. in CC's	Species of Animal	Disease
Autogenous wart vaccine	1,893	Bovine	Bovine Papillomatosis
Autogenous wart vaccine	55	Canine	Canine Papillomatosis
Autogenous Mink Distemper vaccine	27,263	Mink	Distemper
Autogenous Staphylococci bacterin	425	Canine	Boils
Autogenous Pasteurella bacterin	500	Bovine	Pasteurellosis
Autogenous Mixed bacterin	1,000	Bovine	Pasteurellosis
Autogenous Mixed bacterin	500	Porcine	Salmonellosis

Salmonellosis (Paratyphoid)

This infection is not isolated nearly as frequently in this section of the laboratory as in the poultry disease section, but it is found in all species of animal indicating that it is an infection of public health importance. The following table lists the types identified, the species of animal, the age, the location or material from which the isolation was made and the district.

Type	Species	Age	Location	District
Salmonella cholerae-suis	Pig	3 mos.	Intestine	Lethbridge
Salmonella typhi-murium	Bovine	1½ yrs.	Faeces	Wetaskiwin
Salmonella thompson	Mink	2 yrs.	Intestine	Widewater
Salmonella bredeney	Pig	10 mos.	Gall bladder	Edmonton
Salmonella cholerae-suis	Pig	2½ mos.	Gall bladder	Red Deer
Salmonella anatum	Mink	4 mos.	Intestine	Edmonton
Salmonella newport	Calf	1 wk.	Gall bladder	Busby
Salmonella	Pig		Spleen	Olds

The isolation of the Salmonella anatum from a mink in the Edmonton area was traced to its source and it is a good example of how this infection can spread. A herd of 203 mink were moved to a recently depopulated mink ranch in order that the owner and his family might go on a holiday. The mink were placed in the

neighbours cages in a yard also frequented with 50 chickens. The ground in the yard was damp and not overly clean. The owner somewhat reluctantly left on holidays, returning three days earlier than planned. One mink which had escaped, was later caught in the yard, soon becoming ill and died after its return to its home ranch. Another animal that had contact also died with the same symptoms. Both animals were kits, four months of age. The owner's sanitation and handling was good. He treated the whole ranch with Sulfaguanadine according to instructions and had no further losses.

Conclusion

The *Salmonella anatum* isolated from the mink apparently originated from the neighbours chickens.

Listerellosis

Listerella monocytogenes was isolated from 12 chinchilla during the year. On one occasion three animals came from the same ranch during a four month period, but the other isolations were individual cases. The majority of the chinchilla specimens revealed typical pin-point abscesses or faci in the liver and spleen. Lesions were sometimes found in the wall of the stomach and intestines.

The infection was isolated from two sheep from different owners. One of them came from the veterinarian at Ryley with a suspected diagnosis of *Listerella*. It showed marked nervous symptoms and upon culture the causative organism was isolated. The organism was also recovered from a dog and two pigs.

Mastitis

313 milk samples have been received from practicing veterinarians from acute cases of Mastitis.

MASTITIS TABLE

Hemolytic staphylococci	58
Hemolytic streptococci	40
Hemolytic colon	2
Corynebacterium	1
Mixed Infections (staph. strep. colon)	10
Negative	202
TOTAL	313

Blackleg

Blackleg was the most frequently diagnosed infectious disease in cattle. Specimens from seventy-one animals lost through this disease were submitted, an increase over those received in the last 5 years. These would represent a considerable loss and are no doubt only a fraction of actual cases. This disease can be prevented through vaccination.

Swine Erysipelas

Swine Erysipelas was the most frequently diagnosed infectious disease in swine. Ninety-three cases were confirmed here, again an increase over the last five years and no doubt a small fraction of losses. It is probable that greater cost was sustained through stunting and unthriftiness due to the chronic forms of the disease such as arthritis. Cases were spread over a large area of the Province.

At present control is made difficult through the lack of an efficient preventative bacterin, but a prompt diagnosis by a qualified veterinarian with proper treatment and control measures can greatly reduce losses.

Poultry Disease Section

This section is under the direction of Dr. C. H. Bigland, assisted by Dr. H. N. Vance during the rush period of the Spring months.

The work of the Poultry Diseases Section is devoted mainly to the accurate diagnosis of diseases of poultry. Specimens are submitted by veterinarians, farmers, poultrymen and other interested parties from all points in Alberta.

It is recognized that disease is one of the great factors that can cripple successful poultry operation and does result in the loss of thousands of dollars to Alberta poultrymen and farmers. Accurate diagnosis of poultry disease together with speedy effective treatment and control is essential in stopping some of this monetary loss and every effort is put forward to this end.

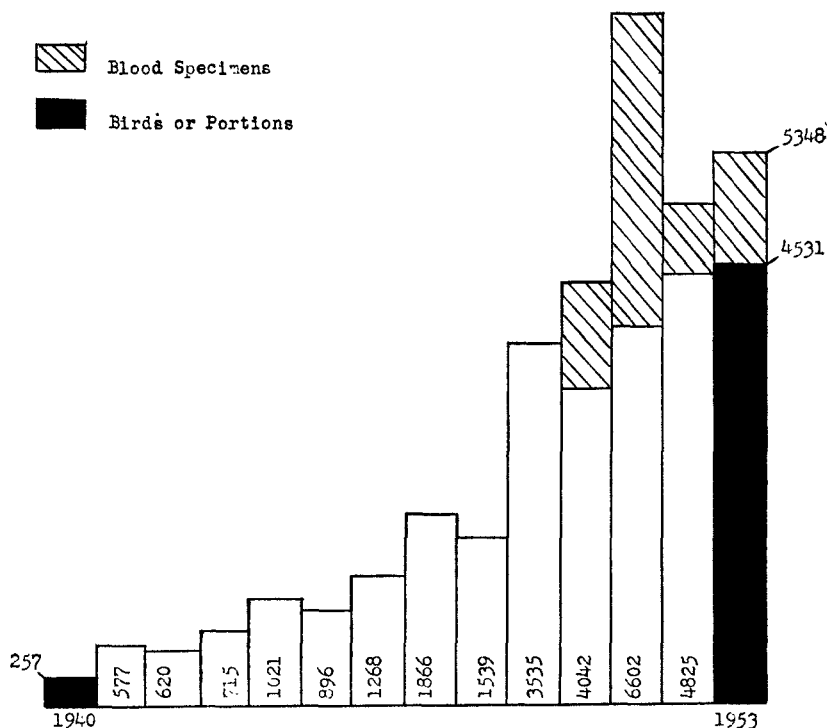
Appreciation and confidence of veterinarians, poultrymen and farmers was illustrated by the number of specimens received in 1953. The total was 5,348, composed of 4,531 live, dead birds and portions (an increase of 327 or approximately 8% over 1952) and 817 blood samples. The total number of farms serviced, decreased from 1,802 in 1952 to 1,651 in 1953 (a decrease of 151 or approximately 8.3%). The decrease in submissions is attributed to a lower poultry population and other factors such as a reduced threat of Newcastle Disease.

The increase in specimens with lowered submission numbers, indicates that more submitters are realizing it is very difficult to arrive at an accurate flock diagnosis from the examination of just one bird from a sick flock. More than one bird from a farm greatly increases the accuracy of a diagnosis on a flock basis.

The following graph illustrated the increasing number of poultry specimens examined since the Alberta Veterinary Laboratory started in 1940. Over 140 primary disease conditions were diagnosed in 1953. Each specimen was given a careful post-mortem examination together with bacteriological, serological micropathological, parasitological, fungus and chemical studies when necessary to ensure accuracy of diagnosis. When such a diagnosis was established, the information was speedily given to the owner his agent together with recommendation for treatment or control. To this end many telegrams were sent and 3,241 letters mailed from this section.

(1) Poultry Disease Picture

On the whole, the poultry disease picture in Alberta in 1953 was slightly brighter than in 1952, this primarily due to a decrease in incidence of some of the infectious diseases (See further discussion.) It is distressing however, to find that many of the poultry losses, as represented by disease conditions diagnosed, could have been prevented or minimized on the farm. The great majority of these were related directly or indirectly to poultry management.



POULTRY DISEASE SPECIMENS
DIAGNOSED SINCE 1940

(2) Newcastle Disease

No cases of active Newcastle Disease were diagnosed in Alberta during 1953. This was attributed to the widespread use of live virus vaccination (Blacksburg strain) in provinces supplying chicks and hatching eggs to Alberta. Arrangements were made to supply this vaccine to Alberta poultrymen through the Alberta Veterinary Laboratory however, only one request was made in 1953. This lack of response did not necessarily indicate lack of interest, rather it was due to the absence of finding Newcastle Disease here.

(3) Infectious Bronchitis

No cases of active infectious bronchitis were diagnosed in Alberta in 1953. A blood test survey, however indicated that 72.2% of adult birds in the province were carrying immunity to this disease. This would tend to indicate that many of our birds had contacted the virus during their lives but losses from infectious bronchitis were not noticeable and the disease was apparently doing little harm.

(4) Chronic Respiratory Disease

Approximately 90 cases of a respiratory condition showing marked similarity to C.R.D. were handled in 1953. Unfortunately due to the difficulty of identification of the causative agent and despite a tremendous amount of work by the Federal Animal Diseases Research Institute and the Alberta Veterinary Laboratory,

definite confirmations were few. Other disease conditions were not found in these specimens either by clinical or laboratory examination. The positive tests found with some cases indicate that the others were quite possibly chronic respiratory disease.

Most of these cases were in chicks 1-8 weeks of age but at least 4 cases were in adult chickens. This disease is not a great killer but can cause economic loss by also stunting birds, decreasing rate of growth and interfering with egg production.

Research work in the USA and Eastern Canada is being followed closely so that the findings can be applied to Alberta conditions. This is true especially as to diagnosis, transmission and the promising results of treatment with antibiotics.

(5) Avian Tuberculosis

This disease, although preventable by good poultry management, is still costing Alberta poultry and hog raisers and the consuming public, many thousands of dollars yearly. An indication of this loss is shown by the 176 specimens from which avian tuberculosis was isolated. This compares with 178 for 1952.

The educational program to acquaint poultry and hog raisers with tuberculosis control was continued in 1953. This by way of letters, pamphlets, radio talks, etc.

(6) Paratyphoid Infection (Salmonellosis)

The incidence of paratyphoid infections was considerably less than in 1952. Paratyphoid organisms were isolated from 338 poult and chicks from 80 different farms in 1953 as compared with 361 from 131 in 1952.

As these organisms are transmissible to humans and because control measures are based on the types encountered, each isolation was submitted to the Alberta Public Health Laboratories for typing.

The following table gives the types found this year from poultry. Many of these same types being isolated from humans in Alberta.

SALMONELLA TABLE	
Type	Number
S. typhimurium	35
S. bredeney	10
S. bareilly	5
S. thompson	17
S. newport	1
S. oranienburg	1
S. tennessee	2
S. san-diego	1
Not typed	8
	80

(7) Pullorum

There was also a slight decrease in the isolations of pullorum from chicks and poult in 1953. This was illustrated by isolations from 473 chicks and poult coming from 109 different farms in 1953 as compared with 423 infected birds from 120 farms in 1952.

The whole blood testing for pullorum of birds producing hatching eggs is carried out by the Alberta Poultry Branch and is highly instrumental in the control of the disease in Alberta.

In cooperation with a Dominion wide agreement on pullorum, all cultures were submitted to the Ontario Agriculture College for typing. The following table gives the types found for the last five years.

	PULLORUM TABLE				
	1949	1950	1951	1952	1953
Standard	33	22	34	68	55
Variant		2	5	39	20
Intermediate	7	9	7	11	29
Not Typed				2	5
TOTALS	40	33	46	120	109

(8) Poultry Extension

Fowl typhoid has been causing serious economic loss in an area east of Edmonton centering around Andrew and Willingdon. Although the direct control of this disease is handled by the Dominion Health of Animals Division, it was felt that the Alberta Poultry Branch and Veterinary Services Branch could attempt to improve the poultry sanitation in the area and bring about an increased awareness to the disease by an educational campaign.

To this end, instructive barn sheets were prepared with information relative to Fowl Typhoid and sanitation. The District Agriculturists in the areas called short courses and give us the opportunity of speaking.

At 7 meetings at which a team from the Poultry Branch and Veterinary Services Branch spoke on Fowl typhoid, approximately 1,000 people attended. It is estimated that representatives of about 1/5 of the farms in the area were thereby contacted. The barn sheets were presented at the meetings and copies left in the offices of the District Agriculturists and municipal representatives for distribution. Copies were also provided to some hatcheries and commercial firms working in the area.

It is hoped that this campaign in conjunction with the Dominion Health of Animal Division work was responsible for the decrease in infected premises to **19** in 1953 as compared with **34** in 1952.

Upon the request of owners or the local Veterinarians, five trips were made to poultry farms to investigate major disease losses. Information on poultry diseases were given in five talks to producer groups and one radio address. The annual Hatcherman's Short Course was held again in 1953. The Dominion Poultry Diseases and the Animal Pathologists conferences were attended in Ottawa.

Scientific Papers

Two papers were published by members of this section and assistance given on a third. These were all published in the Canadian Journal of Comparative Medicine and were titled as follows:

"An Experiment in Egg Penetration by Salmonella", "A log of Time Expended for One Experiment", and "Dissociation and Virulence of Strains of *Pasterurella Multocida* from a Variety of Lesions".

Projects Other Than Poultry Diagnosis

In the course of examining thousands of birds, many conditions and problems are encountered that are in need of research to further knowledge of control, treatment and diagnosis. Since little time is left for such research at this laboratory, we have tried to further knowledge by submitting material to other laboratories for this purpose. Such material as the following including statistical information was submitted: *Salmonella*, *Pullorum*, *Listeria*,

Pasteurella and other cultures, poultry tissues, blood serum, parasites and other specimens.

To assist in a Dominion program of Salmonella research several hundred turkeys were tested on the farms with an experimental *S. Typhimurium* test antigen. Blood samples were also drawn from the turkeys at the time of test. We were assisted in this program by Mr. R. H. MacMillan of the Provincial Poultry Branch.

Several field trips were taken with members of the Poultry Branch to investigate pullorum testing procedures and problem flocks.

Micropathology Section

This section of the laboratory, under the direction of Dr. F. E. Graesser, is primarily concerned with the microscopic study of diseased tissues. In this way, interpretation of characteristic cellular changes may be effected, and, by working in close co-operation with the Animal and Poultry disease sections, a necessary service is accomplished in contributing to an accurate diagnosis of disease conditions.

1. Histopathological Sectioning

Sections were prepared from a total of 861 tissues received during the year, which represents a substantial increase in the number of examinations over a similar period in previous years.

The effect of the rabies epidemic is reflected in the number of canine submissions. A greater awareness was apparent on the part of the veterinarians, as well as the general public, as to the possibility of rabies infection being present in cases which ordinarily might cause little concern.

The incidence of distemper in mink was fairly high this year, resulting in a large number of bladders being sectioned for examination. As distemper may be present, particularly in the early stages, without any apparent clinical symptoms or gross lesions, histopathological examination frequently reveals the presence of inclusion bodies which are diagnostic for the disease. The bladders from all mink submitted to the laboratory for examination are sectioned routinely. In this way, cases of distemper that might otherwise remain undetected are frequently discovered. Similarly, confirmation of the clinical diagnosis can be made in suspected cases. A total of 290 bladders was examined during the year. Inclusion bodies were found in 171 of these, which represents 34 outbreaks of the disease in the province.

A case of suspected infectious hepatitis in a mink was discovered. This is of particular interest as hitherto this disease has not been reported in any species other than the canine. The case was written up and submitted for publication.

2. Preparation of Material for Extension Purposes

The photographic facilities established last year have been expanded. The series of lantern slides and transparencies on the various diseases of domestic animals and poultry has been considerably enlarged, and a number of pictures and photomicrographs were taken to illustrate articles prepared for publication by the various members of the veterinary staff of the laboratory.

A series of colour transparencies was produced by this section on the control of rabies in wildlife in Alberta. This was prepared from sets and illustrations prepared by the Director of Veterinary Services, Dr. E. E. Ballantyne, and submitted as an exhibit to the joint convention of the Canadian Veterinary Medical Association and the American Veterinary Medical Association held in Toronto last July. In competition with fifteen other exhibits of a scientific nature prepared by Veterinary Colleges, United States Army, etc., this was awarded second prize.

During the year, a total of 318 colour transparencies, 155 black-and-white slides, and 50 prints were produced by this section.

In addition to the above, five animal specimens were prepared and mounted in plastic boxes for display and educational purposes.

Brucellosis Statistics

The following analysis of the brucellosis blood testing shows that veterinarians in 1953 tested 14,331 cattle on 2,726 premises in 81 Municipal Districts, Local Improvement Districts or Special Areas. 552 premises (20.4 percent) had infected animals. A great deal of this testing was to determine whether milk from the cows supplying the same for drinking purposes was safe for the family to consume.

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Report of the Fur Farms Branch

J. KOKOLSKY, Fur Farm Supervisor

General

Fur Farming in Alberta reached an all time high in the year 1948 with a total of 1,811 licensed fur ranchers. Since that time there has been a gradual decline, yet the total pelt production has been on an increase. This can be attributed to the following factors:

1. A large percentage of Alberta fur ranchers devoted full time to raising of foxes. The decline in popularity of fox furs resulted in prices below cost of production. As a result fox ranchers with but a few exceptions either went out of business or diverted their ranches to production of mink.
2. Attractive mink pelt prices encouraged speculators, who had no active interest in mink, to invest in breeding stock which was in turn farmed out to established mink ranchers on a share of the increase basis. Increased cost of production reduced the profits and many of these investors were forced by circumstances to pelt out.
3. A certain percentage of ranchers raised fur-bearing animals on a small scale as a part time hobby, along with a regular job or business. Once again rising costs of production made it unprofitable to carry on this small scale enterprise.
4. Numerous small ranches located in the vicinity of cities and larger towns were forced out of business by the rapid building expansion of these centres. Land occupied by some of these ranchers was sold for housing projects at a good price.

In spite of this gradual decline in the number of Licensed Fur Ranchers, the total production of mink pelts has been on an increase. This may be attributed to economy in large scale production. As a result we have in Alberta today fewer but larger ranches.

The Fur Market

Ranch mink continues to lead all other furs in popularity. 1953 Statistics indicate that 70 cents of every American consumer fur dollar is spent on mink. The development of new color phases in mink has endless and unlimited possibilities. Creation of these new color blends to satisfy discriminate tastes of the consumer public is one of the most important factors in maintaining popularity and interest in this fur.

The 1953 pelt market on the whole was quite satisfactory to the producer of top quality pelts. The general trend towards increased production of finer mutations resulted in higher average pelt returns. Rare types brought exceptionally high prices, but this is understandable. When a certain commodity becomes generally available in greater quantities, price levels adjust themselves accordingly. This has been particularly evident in the low

price spread between the leading popular mutations offered towards the close of the season.

Another deciding factor in favour of continued good prices is, that there is no carry over of raw pelts from the previous year.

Early December sales featuring the 1953 pelt crop seem to indicate that prices are much the same to slightly lower than a year ago.

A depressed market quite frequently results when the producers are too eager to overcrowd the market with an exceedingly large offering of pelts at one sale. This creates a false impression of over supply. Sales dates either clashing or held too frequently also have an important bearing on market prices.

Some form of orderly marketing would be valuable in stabilizing prices.

Breeding Stock

Fur ranchers have realized the importance of herd improvement. Raising of top quality pelts is an absolute **must** in view of the ever increasing costs of production as compared to price returns on pelts. The rancher must orient his efforts to production of these types that will show highest returns per cost dollar.

The past three years have shown remarkable improvement in quality of mink produced in Alberta.

Feed Supply

The feed situation continues to be a pressing problem. Scarcity of available horses for animal food has been and will be in the future responsible for even greater increases in cost of production. The shortage of fish in the Lac La Biche area made it particularly difficult for ranchers in that area. It is vitally important that ranchers make some provision to store adequate feed supplies to tide them over any such emergencies in the future.

At least a half dozen ranchers from the Lesser Slave Lake area moved to the Pacific Coast primarily because of the uncertainty of feed supplies at Lesser Slave Lake.

Extension Work

1. Field Days:—

Field Days and Field Day Meetings were held at Faust, Widewater, Lac La Biche, Lacombe and Calgary. In each case several districts were combined purposely to devote more time for conducting the Field Days and Meetings. This arrangement gave the ranchers opportunity for better comparison of animals exhibited. It also made it possible for ranchers to see the latest types of mutations, quite often not available in smaller areas.

Mr. W. Levine of Edmonton judged and selected the mink classes. Apart from this function he lectured on fur trends and market conditions.

The Veterinary Services Branch was represented by Dr. E. E. Ballantyne, Director of Veterinary Services; Dr. G. S. Wilton, Veterinary Pathologist; and Dr. J. O'Donoghue, Extension Veterinarian. Subjects covering disease control, nutrition and other problems pertaining to health of animals were thoroughly discussed.

Mr. J. J. Horne, representing the Alberta Fur Breeders Association, dealt with matters pertaining to the Associations, both Provincial and Canadian. He also assisted in discussion on genetics and breeding problems.

Mr. D. R. Fraser, Executive-Secretary of the Alberta Fur Breeders Association, stressed importance of a sound organization and its functions. He placed particular emphasis on the necessity of a co-ordinated effort to provide adequate feed supplies in the future.

Mr. J. Kokolsky, Fur Farm Supervisor, was in charge of the organization of Field Days and Field Day Meetings. Management and ranching problems were discussed. Genetics and development of new types were explained.

2. Fur Farming Short Course:—

One series of lectures was given to students at the Vermilion School of Agriculture. Lectures were based on elementary principles of fur farming. Films were used as a follow-up on lectures.

3. Office Extension Work:—

Ranch inspections and personal visits are made by the Fur Farm Supervisor, where advice is given on problems arising from time to time. Apart from this, requests for information pertaining to practically all phases of the fur industry are answered by the Fur Farm Supervisor. Pamphlets and bulletins are available on various subjects. These are mailed out when requested.

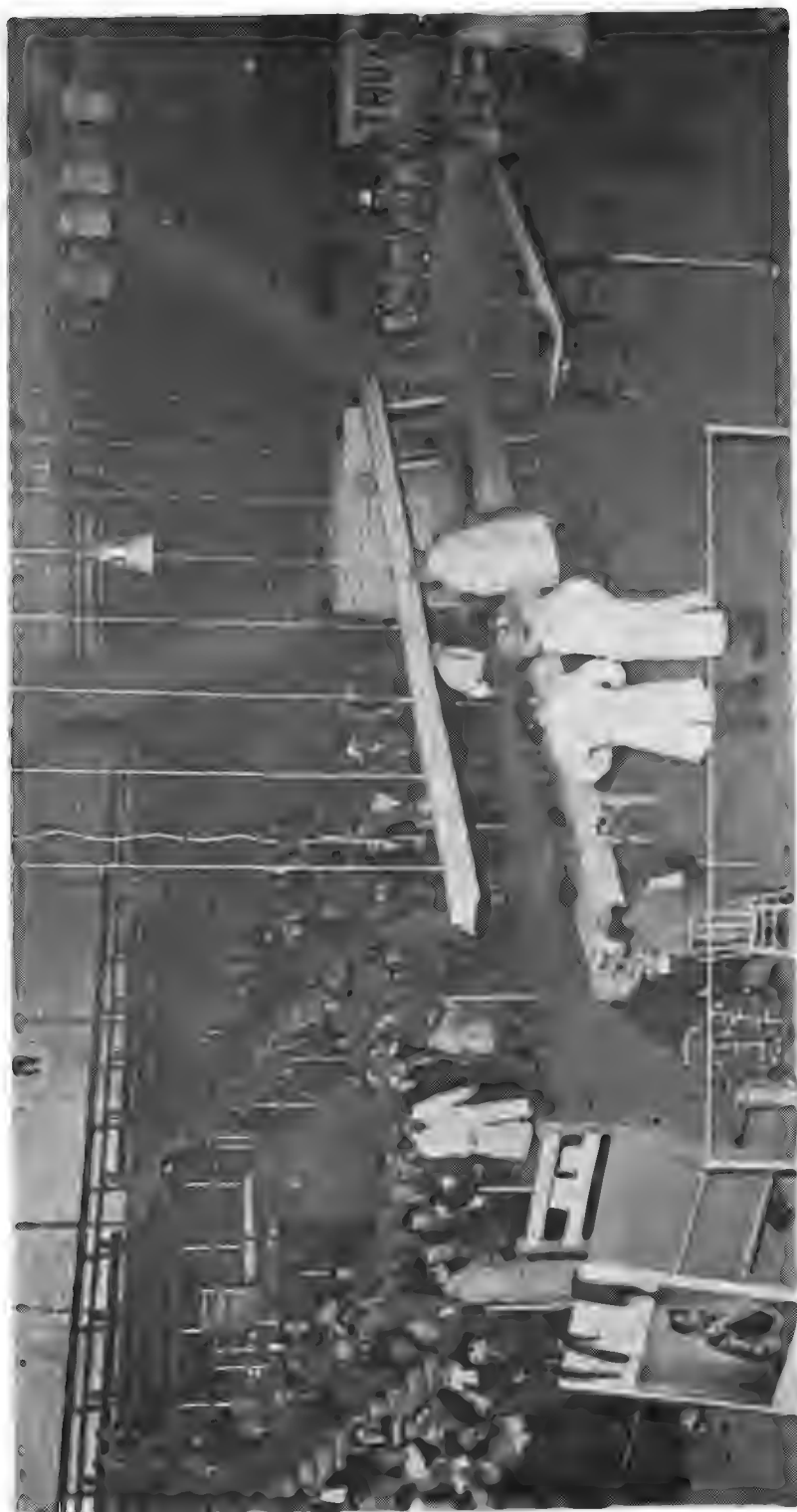
Fur Breeders Association:

The Alberta Fur Breeders Association continues to function in the interests of the industry. Considerable ground work has been laid towards co-operation with the Canada Mink Breeders, a national organization. The local associations are of great value to the producer as they are an excellent medium for exchanging of ideas and information and discussing of problems of immediate interest.

Live Animal Shows:

The Annual Live Animal Shows alternate between Calgary and Edmonton. The 1953 Mink Show held at Edmonton on November 18, 19 and 20th at the Sales Pavilion was a success in every respect. Judging conducted in a heated building under specially constructed artificial lights was a definite improvement over similar shows held in Edmonton previously. The services of three outstanding judges from the United States were obtained for greater prestige and added publicity. Merchandise prizes in addition to ribbons were awarded to champion mink in their respective classes. All mink were personally inspected by the Show Veterinarian, Dr. E. E. Ballantyne.

A total of 612 mink entries were received from ranchers in Alberta, the Western Provinces and the United States. The quality of animals exhibited is indicative of the remarkable improvement program that has taken place in the fur ranch industry during the past few years. The show judges were unanimous in voicing their opinions that the quality of mink on display was equal to the best found anywhere. Equally important is the fact that Alberta



Judging a class of dark mink at the 1953 Edmonton Live Mink Show.

ranch mink exhibited at this show compared favourably with the best from other Provinces and across the border.

Live Animal Shows and Field Days have played a leading role and are definitely instrumental as an aid to development and improvement in quality of Alberta Ranch Mink.

Health:

The report on health of fur-bearing animals will no doubt be dealt with by the Veterinary Services Branch. We would like at this time to express our appreciation to the staff of the Veterinary Laboratory for their splendid assistance and co-operation given to the fur farmers throughout the Province.

The number of specimens submitted to the Laboratory is increasing each season as the fur farmers realize the advantages of this valuable service that is available to them.

The Northern section of the Province has been comparatively free of any serious outbreaks. Several outbreaks of distemper occurred in the Calgary area. The available supply of vaccine under the Distemper Vaccine Assistance Plan was used as a control measure on affected ranches.

Sanitation, early diagnosis and preventative vaccination play an important part in disease control.

Minor losses occurring periodically may be attributed to ranch management. High cost of feed and quite frequently the scarcity of this commodity often leads ranchers to resort to cheaper substitute feeds, resulting in improperly balanced rations and consequently nutritional deficiencies.

FUR FARM STATISTICS FOR YEAR ENDING AUGUST 31st, 1953

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA, 1952-53

Kind of Animal	Total No. of Animals	Av. Value Per Animal Sept. 1/52	Total Valuation
Fox, Silver	3,356	\$ 12.00	\$ 40,272.00
Fox, Cross	1	10.00	10.00
Fox, Blue and White	96	10.00	960.00
Mink, Standard	147,798	14.00	2,069,172.00
Mink, Mutation	70,341	22.00	1,547,502.00
Marten	138	20.00	2,760.00
Chinchilla	1,685	100.00	168,500.00
Nutria	7	5.00	35.00
Fisher	3	25.00	75.00
	223,425		\$3,829,286.00

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA, 1952-53

Kind of Animal	Total No. of Animals	Av. Value Per Animal Fall 1952	Total Valuation
Fox, Silver	2,764	\$ 12.00	\$ 31,168.00
Fox, Cross	Nil		
Fox, Blue and White	77	10.00	770.00
Mink, Standard	114,367	14.00	1,601,138.00
Mink, Mutation	43,098	22.00	948,156.00
Marten	58	20.00	1,160.00
Chinchilla	Nil		
Nutria	Nil		
Fisher	2	25.00	50.00
	160,366		\$2,582,442.00

DEPARTMENT OF AGRICULTURE

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA, 1952-53

Kind of Animal	Total No. of Animals	Av. Value Per Animal	Total Valuation
Fox, Silver ..	Nil	\$	\$
Fox, Cross ..	Nil		
Fox, Blue and White ..	Nil		
Mink, Standard ..	220	50.00	11,000.00
Mink, Mutation ..	457	100.00	45,700.00
Marten ..	40	75.00	3,000.00
Chinchilla ..	93	100.00	9,300.00
Nutria ..	Nil		" "
Fisher ..	Nil		" "
	810		\$ 69,000.00

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA, 1952-53

Kind of Animal	Total No. of Animals	Av. Value Per Animal Dec. 31/52	Total Valuation
Fox, Silver ..	592	\$ 25.00	\$ 14,800.00
Fox, Cross ..	Nil		
Fox, Blue and White ..	19	15.00	285.00
Mink, Standard ..	33,006	20.00	660,120.00
Mink, Mutation ..	26,506	40.00	1,060,240.00
Marten ..	40	50.00	2,000.00
Chinchilla ..	1,592	100.00	159,200.00
Nutria ..	7	5.00	35.00
Fisher ..	Nil		
	61,762		\$1,896,680.00

FUR FARM LICENSES, 1952-53 SEASON

Fox	11	Chinchilla ..	89
Fox and Mink	27	Nutria ..	1
Mink	746	Fisher and Mink	1
Mink, Marten and Fox	2		
Marten and Mink	4		882
Marten	1		

Report of the Apiculture Branch

W. G. LeMAISTRE, Provincial Apiarist
J. W. Edmunds, Supervisor of Apiary Inspection

The total honey crop of 3,851,000 pounds was 21 % below that of last year. The two factors responsible for this decline were, first, a 13 % reduction in yield per colony—124 pounds as against 142 pounds in 1952; and second, a reduction of 10 % in the number of hives operated—31,120 from 34,600 in 1952.

A continued trend towards specialization is apparent. The hobbyist and sideline beekeeper is being replaced by the commercial honey producer. In 1948 the average number of hives operated per beekeeper was 10, in 1953 it was 20.

Besides honey production there is an acknowledged value of the effect bees are having on the yield of forage crop seeds. No figures are available on the probable direct effect. However, several enquiries were received from seed growers seeking a means of increasing the honey bee populations of their fields. Some of these indicate a willingness to pay for pollination services.

GENERAL

Beekeepers continue to import virtually all the bees used. Only 1,500 colonies were prepared for winter (5 % of total). Approximately 300 (20 %) of these died during the winter or early spring.

Bees are imported each spring from California and the Southern States in packages. The two pound packages cost from \$3.50 to \$5.50 each, delivered in Alberta. Most of the importations are now coming by truck. Owing to the perishable nature of the load and the special conditions necessary to having the bees arrive in good condition this trucking is mainly by beekeepers.

A. C. Bradley of Athabasca won the shield awarded by the Canadian Beekeepers' Council for the best honey at the Pacific National Exhibition.

SEASON

Early spring weather was too cold and unsettled to permit a normal build-up of colony strength. Spring nectar sources were not abundant and bee flight was restricted. More pollen and honey than usual was required as food to maintain colonies. Very few colonies showed any surplus before July.

In central and northern Alberta unsettled weather continued well into August. Numerous storms and considerable rainy spells with cool weather lasted almost throughout the normal honey flow period. This weather prolonged and accentuated swarming. Extensive hail affected the yield in some districts. In southern Alberta though there was much rainy and stormy weather in the early part of the season fair conditions obtained during the last half of the season.

The effect of the delay in spring build-up was not as serious as it normally would be because the continuation of bad weather

delayed and prolonged the honey flow. The drier and clearer fall weather enabled the honey to be well ripened and facilitated extracting and completing the fall work. The net result was a fair average yield per colony (12% above the 10 year average) of very good grade honey.

MARKETING

Market Review

The Canadian honey crop is 15% smaller than in 1952, with much of this deficiency being near the larger population centres of the East. A very good demand has existed for car lots of bulk honey (70 pound drums). Some improvement in price was evident.

Alberta normally ships up to 2,000,000 pounds to British Columbia annually. The demand and prices offered in Eastern Canada have diverted some honey to that market. It is unlikely, with existing freight rates, that any substantial trade will become established in this latter area.

A definite trend away from retail container packs by beekeepers is apparent. It would seem that as long as there is competition amongst packers for supplies from beekeepers this trend is not to be deplored.

It would seem that during the last two years the supply and demand situation has been favouring the producer. Beekeepers have been promoting honey sales through their own organizations. Canada's population and hence potential consumers, has increased; and the crop has been smaller due to a reduction in the number of hives operated.

Honey Grading

Beekeepers and honey packers are required to grade and mark all honey entering trade. Inspection is conducted in wholesale and retail establishments, in co-operation with Dominion inspection services.

Total Inspections	1,611
Containers Inspected	15,102
No. of Violations	14
No. of containers in Violation	3,253

Most of the violations were improper marking, though one lot of 1,000 containers was of poorly strained honey.

A grading service is provided. Any honey packer in doubt regarding the grade of his honey may send representative samples and receive determinations on them. Moisture content is one of the important factors which is not so easily determined by a beekeeper. In wet seasons the moisture content of honey may often be above the legal limit for a number 1 grade. There was not much trouble in this respect this year, only three samples being below a number 1 grade.

EXTENSION

Considerable work is done with beekeepers' groups and individuals to inculcate improved practices in production methods and particularly in disease control measures. Lectures, demonstrations, bulletins, correspondence, radio and press are all used to disseminate information. Lectures are given to students at agricultural schools

Some publicity has also been given to findings in connection with the effect of bees as cross-pollinators of leguminous forage crops.

Demonstrations on honey judging and lectures in connection with packing honey to meet grading regulations were given. Technical assistance is given honey packing plants in problems that arise from time to time.

DISEASE CONTROL

Fourteen inspectors were appointed under the Bee Diseases Act. The services of these inspectors to the beekeeping industry is invaluable. In addition to their inspections which help eradicate serious potential sources of infection, their work in educating beekeepers to recognize the symptoms and seriousness of disease is of great importance.

The percentage of colonies affected by disease showed a decline from 1.7 in 1952 to 1.6 in 1953. Due to suitable weather at the time when inspections are most easily carried out the percentage of colonies inspected was increased this year from 18.8 to 28%.

	1952	1953
No. of Colonies Inspected	6,528	9,267
No. of Apiaries Inspected	639	451
No. of Colonies diseased (AFB)	584	497
Diseased Hives (% of total)	1.7%	1.6%

This Branch maintains laboratory equipment for making microscopic analysis of bee brood suspected of being diseased. Samples are analyzed and the sender is informed of the results. In cases where disease is present the sender is notified of the disease and the treatment recommended.

Before inspectors destroy colonies in which disease is thought to be present, a microscopic analysis of the brood is made to avoid destruction of colonies not diseased. The following samples were sent in by beekeepers:

Samples containing AFB spores	30
Samples containing EFB spores	8
Samples containing no disease	23

This Branch maintains and operates two wax melting units to assist beekeepers in disposing of or sterilizing diseased equipment. These units salvage the wax from the equipment being cleaned up thus reducing considerably the loss that would occur under former methods. Approximately 11,500 pounds of wax was derived from the 4,625 supers which were sterilized. This service encourages beekeepers to clean up infected colonies and do it more effectively.

Several beekeepers have used sodium sulfathiazole drugs in an attempt to reduce disease in their apiaries. Observations on the results indicate that when the drug was carefully and systematically administered the amount of disease was greatly reduced. In all cases where the drug failed to produce satisfactory results it seemed to be traceable to improper use.

INVESTIGATIONS

Hive Lifter:

In an attempt to increase the degree of mechanization of apiary work a hive lifter was designed. It was placed in the hands of the Progress Manufacturing Co. of Edmonton. This firm pro-



Hive Lifter

duced several units that have been on trial. It is believed this tool is serving a useful need. It saves an operator considerable labour in examining his hives and also serves as a barrow. Inspection for disease is slow and difficult late in the season; this lifter is particularly useful for such work.

Nitrous Oxide

This gas has been used to cause bees to lose their memories. There are no reports of the concentration and not much information on the method of application.

Loss of memory in bees is likely to have two useful applications (1) That when moved short distances they will not, when flying, return to the old location. (2) Exploring bees looking for food will work alfalfa blooms for pollen and hence effect cross-pollination. After five to six days the explorers are likely to become fixed on sources of pollen other than alfalfa. It was thought by treating colonies with N_2O the exploratory activities might be prolonged to cover the entire effective blooming period of alfalfa, N_2O discharged from a cylinder into a plastic sphere was used to administer measured quantities of the gas to two story colonies.

1.5 cu. ft. of gas seemed to anesthetize the colonies when poured over the frames. The hives were then moved. A few bees

(21) were found at the old location of the hives the following day. These were thought to have been field bees that were not in the hives at the time they were treated. The experiments were conducted on three occasions and produced similar results on each.

It appears that a concentration of 50% N_2O in a colony for three minutes is sufficient to cause bees to lose their memories and not have any other effect on the colony.

Pollination

Observations on the effects of bees on seed sets of legumes were continued.

Recommendations regarding effects of placement, population densities and most effective periods are needed by beekeepers and seed growers. Information would also be useful regarding age of stand, density of stand, condition of crop, uses of fertilizers and insecticides and harvesting methods as they effect seed yield.

In alfalfa a project was outlined again in the Sangudo district with a commercial beekeeper and seed grower co-operating. No progress was made in this. At the time the hives should have been placed in their locations it was impossible to get to the field because of mud and water. The project was abandoned for the season.

Observations were to be made on a twenty acre field of alsike in the Leslieville district. In this instance forty-two colonies were located across the centre of the field. Even though this field was backward, being under water frequently, a good set of seed was apparent. However, a hail-storm wiped it out completely before harvest. The bees had to be moved to allow them to store honey.

A second observation on alsike was thereupon undertaken in which one strong colony per acre on a thirty acre field was used. This was on a one year old stand. The hives were placed prior to the opening of bloom. In this test 450 pounds of clean seed per acre were harvested. Some seed may have been lost as high winds had disturbed the swaths twice. Climatic conditions for seed setting were only fair; though for maturing and harvesting they were good.

A field adjacent to the one on which bees were placed yielded 200 pounds per acre. It was a two year old stand and growth was not as good as the test field. At two miles from the bee hives yields dropped to slightly over 100 pounds per acre.

Observations were made on a timothy and alsike mixture. The seed yield on this field was only 280 pounds per acre, even though hives were placed similarly to that where the yield was 450 pounds per acre. Honey bees do not seem to pollinate so effectively where the blooms are more or less obscured. A similar result was observed on altaswede clover where growth was very heavy, much of the crop lying down and blooms not well exposed. This same observation has been made on sets of alfalfa seed i.e. that heavy growth and somewhat obscured bloom seemed to reduce the set of seed.

From these observations it would appear that honey bee colonies placed at the rate of one colony per acre during early bloom and distributed over a field of alsike can be expected to effect an increase of seed set of four times that of similar fields not within flight range of honey bees.

Besides the presence of honey bees there are several factors that will affect clover seed yields. Those noted were type of growth of clover and other plants in the same field, and climatic conditions throughout the season.

We are indebted to C. J. Read, Red Deer beekeeper, for the considerable work he did in placing and managing the colonies. Also to E. W. Palkot of Stauffer who provided the alsike fields and kept the yield records.

Obviously all honey bee colonies are effecting cross-pollination throughout the season. While some of the resultant seed produced is not of immediate economic importance a great deal probably is. Beekeepers, in their efforts to harvest honey crops, approach farmers seeking sites near clover that will probably be left to mature. Recently there has been a distinct increase in the reverse process whereby the farmer has been approaching the beekeeper to provide bees for cross-pollination.

A survey was conducted amongst commercial beekeepers to determine to what extent services of their colonies for pollination were being sought by seed growers. 3,648 colonies were consciously placed to effect cross-pollination at the requests of seed growers. 1,175 colonies were paid for in cash or crop share by the seed growers, and 2,473 were supplied free. 23 seed growers offered payment for bees and received an average of 51 colonies each. All had bees provided. 125 seed growers did not offer to pay but nevertheless many of these had bees placed. These averaged 24 hives per grower. 16 of these growers were not successful in having any bees placed.

It is apparent that when a seed grower really wants honey bees for pollination he can usually get them by paying a rental. At least 12% of the colonies are being used purposefully for pollination.

Production Tests

A test was started in 1952 to try and determine the most suitable date to bring in package bees. Since climatic conditions are of major significance it was considered necessary to conduct the tests for several years to determine the best average date under varying spring weather conditions.

The 1952 Annual Report gives the details of the methods employed. The procedure used this year was similar to the 1952 test. Forty packages received April 3rd were installed in two locations. On April 23rd forty additional packages were installed, twenty in each of the two locations.

Tests were carried out by a commercial beekeeper with supervision from this Branch.

Honey production from the test colonies for the past two years are as follows:

	1952	1953
Early Packages—Location No. 1	317.5 lbs. per colony	173 lbs. per colony
Late Packages—Location No. 1	230 lbs. per colony	180 lbs. per colony
Early Packages—Location No. 2	215.7 lbs. per colony	*107 lbs. per colony
Late Packages—Location No. 2	163.2 lbs. per colony	175 lbs. per colony

*The beekeeper felt this figure should not be included. Due to management difficulties this yard received insufficient swarm control and production was cut considerably by loss of swarms.

The results from this year's test indicate that under the weather and legume crop conditions which existed this year the later packages produced more honey than the earlier ones. Weather conditions this year delayed the blooming of nectar yielding plants by as much as two weeks thus eliminating the advantage obtained by the early packages in 1952.

The average production for the two years, including the figures for the abnormally low one, shows an increase of 21.3 pounds per colony in favour of the early packages; excluding the abnormally low figure the early packages would show an increase of 75.9 pounds per colony over the late.

Sulfa Treatment for Bee Disease

Observations were made this year on several apiaries in which sulfa drugs were used in an attempt to control or prevent American foulbrood. A study was made of the form of sulfa used, the methods of administering it and results obtained.

(1) Two apiaries were checked where powdered sodium sulfathiazole was dusted on infected combs. In one case the drug proved toxic to the brood and a considerable amount of brood was killed. Control of the disease was not considered satisfactory. The second apiarist claimed satisfactory control by this method but an inspection showed a small percentage still to be infected. A third beekeeper reports satisfactory control by this method but to date this Branch has not verified his results.

(2) Several beekeepers have sprayed a medicated syrup into combs in infected equipment using $\frac{1}{2}$ gram of powdered sodium sulfathiazole per gallon of syrup.

One apiary of 205 colonies had a heavy infection of disease when discovered. A considerable amount of honey was present so that bees were not entirely dependent on the medicated syrup for food. Combs in the brood nests were sprayed early in July with medicated syrup using a three gallon weed sprayer. The disease was not eliminated, but a very marked reduction was evident.

A second case was investigated where only a few colonies had a light infection. After two treatments as above, the disease disappeared for the balance of the season.

A third case was studied in which all colonies were heavily infected. The brood chamber frames were melted in the fall. The following spring packages were introduced on combs from honey supers containing no honey. Combs were sprayed heavily with medicated syrup. Subsequent feedings required were of medicated syrup. Under this system all food used for rearing brood is medicated, thus increasing the chances of controlling the disease.

Results obtained by the last method were most satisfactory. Of the 200 colonies on the test only one showed disease when inspected in July.

(3) Some beekeepers have used the feeder pail method. In this system a small pail (usually 8 pounds) with a perforated lid is filled with medicated syrup and inverted over the frames of the hive. An empty super is placed on the hive to allow the hive top to be placed on the colony. This method proved unsatisfactory under Alberta conditions. The bees discontinue the use of the

medicated syrup when nectar becomes available in the field. It is suspected that failure in some cases was due to the type of drug used not going into solution. Under Alberta conditions where packages are used almost exclusively and where early nectar flows are available from willow and dandelions this system does not seem adequate.

Reports have been received of another system being used in which a small amount of heavily medicated syrup is sprayed into the hive. To date no checks have been made of this method. A check is anticipated in the coming year.

	STATISTICS		
	1952	1953	% Change
Honey production '000 lbs.	4,900	3,851	—21
Average net price per lb.	.12	.14	+17
Value '000 dollars (honey)	588	539	—9
Beeswax '000 dollars	30	23	—23
No. of beekeepers	2,010	1,560	—22
No. of hives	34,600	31,120	—10
No. of hives per beekeeper	17.2	20	—
Average production per hive (lbs.)	142	124	—13

Report of Schools of Agriculture Branch

R. M. PUTNAM, Superintendent, Schools of Agriculture
 J. E. Birdsall, Principal, Olds School of Agriculture
 N. N. Bentley, Principal, Vermilion School of Agriculture
 J. E. Hawker, Principal, Fairview School of Agriculture

It is with regret that the death of W. J. Elliott, first Principal of the Olds School of Agriculture and Principal of the Vermilion School of Agriculture from 1924 to 1937, is recorded. Mr. Elliott passed away in Edmonton on December 10th.

Another milestone in the operation of the Schools of Agriculture and Home Economics was reached in 1953 when the first graduates of the Fairview School received their diplomas at the graduation exercises on April 1st.

A total of 192 students graduated from the three schools in the spring of 1953.

	Olds	Vermilion	Fairview
Diplomas in Agriculture	61	56	24
Diplomas in Home Economics	19	26	6

Another important event was the addition of typing and employment training in the course in home economics. This action was recommended by the Board of Agricultural Education in an attempt to meet the needs of many girls who seek employment for a few years after graduation and before they become homemakers.

During the year the course in science was reviewed and a special course designed for the students in home economics. The courses in home nursing and farm buildings were somewhat revised.

A total of thirteen staff changes occurred between the closing of the schools in April, 1953 and their opening in October. It is to be hoped that a reclassification of the positions of instructors at the schools made during the year will be instrumental in retaining staff members for a longer time.

The special arrangement made during 1952 between the Vermilion School of Agriculture and the Vermilion School Division was continued and extended to include four instructors instead of two.

In order to better acquaint teachers of the Province with the facilities of the Schools of Agriculture, members of the staff of this Branch attended ten teachers' conventions (Fairview, Grande Prairie, Lac La Biche, St. Paul, Two Hills, Vermilion, Camrose, Red Deer, Calgary and Medicine Hat), during the fall. At most of these gatherings an automatic slide projector was set up to show views indicating the nature of the courses offered in agriculture and home economics.

A conference of the teaching staff was held at the Vermilion School on October 6th and 7th. This conference was of considerable value in view of the fact that a number of new instructors had joined the service since the year before.

Summer Program

An important gathering during the summer was the Alumni Reunion at Olds, when the Fortieth Anniversary of the opening of this institution was observed. The schools are being utilized more and more as meeting places for many organizations during the summer. The Department uses the facilities of each school for 4-H Club Week and Farm Women's Week. A Club Leaders' Conference and the Provincial 4-H Club Eliminations are held at Olds. These events, together with other gatherings, keep the schools busy for the month of July.

Members of the staff who were not required at the school for the summer were attached to the Extension Service or other Branches.

Maintenance and Construction

The usual program of repairing and redecorating was carried on at Olds and Vermilion. Several buildings which were started in 1952 at Fairview were completed. Two staff houses were built in the Town of Fairview and construction of two additional residences, one of which was located on the campus, was commenced. Planting of the grounds and building of roads was practically completed at Fairview.

School Farms

Excellent crops of good quality were harvested at all schools in 1953.

The Large English White herd at Olds was increased somewhat and a new herd sire was purchased in December. A pasteurizer was installed at Olds to process milk from the farm for use in the dormitory. All schools are now producing sufficient milk to meet the needs of the institution.

1953-54 Term

Enrolment for the 1953-54 term was approximately equal to the previous year.

Agriculture:	Olds	Vermilion	Fairview	Total
First Year	54	49	26	129
Second Year	31	43	27	101
Two-in-One	33	27	10	70
	118	119	63	300
Home Economics:				
First Year	21	23	10	54
Second Year	8	10	5	23
Two-in-One	6	7	4	17
	35	40	19	94
TOTAL	153	159	82	394

The number of boys enrolled in the agricultural course is almost as great as can be accommodated, but room for an additional twenty girls at each school is available. It is hoped that the increase in the number of girls registered in the first year course in home economics in 1953 indicates a trend toward a larger class of students in home economics. The introduction of typing, employment education, and more advertising may have been the reason for the increase.

**ATTENDANCE SCHOOLS OF AGRICULTURE AND HOME ECONOMICS
BY CLASSES FOR SCHOOL YEAR BEGINNING OCTOBER, 1945**

AGRICULTURE

Year	OLDS			VERMILION			FAIRVIEW		
	Year of Course			Year of Course			Year of Course		
	1st	2nd	2-1	1st	2nd	2-1	1st	2nd	2-1
1953	54	31	33	49	43	27	26	27	10
1952	60	30	35	61	42	18	43	19	8
1951	54	32	33	61	41	19	36	...	...
1950	50	42	33	61	40	24	...	...	...
1949	56	40	28	61	39	28	...	...	...
1948	56	41	35	61	42	24	...	...	...
1947	48	30	43	60	32	28	...	...	...
1946	44	48	37	56	54	32	...	...	...
1945	66	37	29	76	...	...	...	...	...

HOME ECONOMICS

Year	OLDS			VERMILION			FAIRVIEW		
	Year of Course			Year of Course			Year of Course		
	1st	2nd	2-1	1st	2nd	2-1	1st	2nd	2-1
1953	21	8	6	23	10	7	10	5	4
1952	17	15	6	14	16	11	12	6	...
1951	27	12	12	21	11	11	15	...	...
1950	28	17	12	27	19	14	...	...	...
1949	31	19	16	32	16	13	...	...	...
1948	36	13	17	34	15	17	...	...	...
1947	29	14	17	26	20	9	...	...	...
1946	23	21	20	35	27	10	...	...	...
1945	35	22	15	38	...	...	...	...	...

Board of Agricultural Education

The Board of Agricultural Education held its 1953 annual meeting on June 17th. The Board recommended the introduction of typing and employment training for girls as an alternate to dairying and poultry.

Reports on the operation of the schools for the previous year were presented and the Board considered a brief which supported the teaching of vocational agriculture in the high schools of the Province.

Appreciation

Once again it is a pleasure to acknowledge the support which the Schools of Agriculture and Home Economics enjoy. A number of commercial organizations give valuable financial assistance in the form of scholarships, bursaries and prizes toward the attendance of students in these institutions. Many individuals, especially former students, support the schools and encourage young people to attend them. All of these services are greatly appreciated. The help of many officials of other Branches in the Department is also acknowledged with thanks. Finally, the Superintendent of Schools wishes to express appreciation to the Principals and staff for their contribution to the agricultural education of the future farmers and homemakers.

Canadian Vocational Training

The Rural Electrification Schools mentioned in the 1952 report were continued in 1953. During January, February and March six Rural Electrification Schools were held, at Brooks, High River, Drumheller, Camrose, Lacombe and St. Paul. In the fall of the year, the program was renewed and schools were held at Spirit River, Fairview and Falher. The demand for these schools became so great that a second team of two instructors was employed for the winter of 1953-54, which allowed the holding of fifteen schools during the season.

The schools are conducted by the Department of Agriculture with funds provided jointly by the Department of Education and the Canadian Vocational Training Branch of the Federal Department of Labour. The Department of Industries and Labour loaned two inspectors from the Electrical Inspection Branch as instructors, and the Co-operative Activities Branch visited each school to discuss rural electrification associations. A representative of the Alberta Power Commission also participated by giving a lecture on the Province's power resources. Valuable help is obtained from the Power Companies, who supply someone at each school to discuss rates, transmission, etc.

The upper age limit of thirty years was removed for the schools beginning in the fall, and 'students' aged twenty-one years and over were accepted. Each school was limited to a maximum of thirty students.

The schools held in 1953 were well attended, as the following table indicates:

Brooks	31	St. Paul	40
High River	32	Spirit River	26
Drumheller	43	Fairview	23
Camrose	58	Falher	29
Lacombe	52		

OLDS SCHOOL OF AGRICULTURE

The 1952-53 term closed on April 1st, 1953 with the presentation of nineteen diplomas in home economics and sixty-one in agriculture. Mr. J. Oberholtzer, Deputy Minister of Industries and Labour, delivered the address to the graduating class. Mr. Ian Gartshore, a two-in-one student in agriculture, was valedictorian.

The number of unsatisfactory students in the first year class was unusually high. Of sixty students registered in the first year agriculture, three were dismissed, one left and the record of twenty-three others was so bad as not to be permitted to return. Of seventeen girls registered in first year home economics, four were not allowed to return because of unsatisfactory records and one because of behavior. An effort is being made to avoid a recurrence of this by obtaining reports from former teachers and by making it known that high standards are being adhered to.

Fortieth Anniversary

Closing exercises on April 1st had considerable historical significance, as it was forty years since the first closing exercises were held. In the early years all students took the two-year course so the first class graduated in 1915, and the class of '55 will be the fortieth graduating class. The 'flu' epidemic in 1918 disrupted operations and so there was no graduation in 1919.

The Alumni Association co-operated with the school in arranging a fortieth anniversary reunion on July 10th. About 375 people attended, with members of nearly every class signing the register. Mr. W. J. Elliott and Mr. Frank Grisdale, first and second Principals respectively, attended, as well as Mr. O. S. Longman, Deputy Minister of Agriculture who has been connected with the Schools of Agriculture from their inception, and Mr. R. M. Putnam, Superintendent of Schools of Agriculture. The absence of Mr. James Murray, Principal from 1930 to 1946, on account of ill



SCHOOL OF AGRICULTURE AND HOME ECONOMICS—Officials past and present

Left to right: R. M. Putnam, Superintendent of School of Agriculture and Home Economics; F. S. Griswold, Principal, Olds School of Agriculture, 1916-1930; O. S. Longman, Deputy Minister of Agriculture; W. J. Elliott, First Principal, Olds School of Agriculture, 1913-1916; J. E. Birdsell, Principal, Olds School of Agriculture, 1932.

health is recorded with regret. Dr. H. R. Thornton, class of '16, was guest speaker for the occasion.

In connection with the Fortieth Anniversary, achievements of former students and staff were reviewed. It is obvious that the Schools of Agriculture have reason to be proud of those who have passed through their doors. A considerable number have achieved prominence but no doubt the greatest impact of the life of the Province has come from the large group of men and women who are better farmers and homemakers as well as community workers because of the training and experience gained at a School of Agriculture.

Special Lectures and Visitors

Lectures in irrigation and animal sanitation for second year and two-in-one agriculture classes were given by Mr. C. J. McAndrews, Irrigation Specialist, and Dr. J. D. O'Donoghue, Veterinary Services Branch of the Department of Agriculture. Mr. J. W. Edmunds, Supervisor of Apiary Inspection, gave a series of six lectures in beekeeping to the first year and two-in-one agriculture classes.

Special speakers included the following: Dr. A. G. McCalla, Dean of Agriculture, University of Alberta; Mr. Grant MacEwan, Manager, Council of Canadian Beef Producers (Western Section), Calgary; Father Athol Murray, Notre Dame College, Wilcox, Saskatchewan; Rev. J. Gardiner, President, Alberta Conference, United Church of Canada; Mr. C. Graham Anderson, Alberta Safety Council; Mr. Bruce Ellis, Nuffield scholar, Hualta, Alberta; Mr. A. E. Palmer, Superintendent, Dominion Experimental Station, Lethbridge; Mr. H. B. Stelfox, Dominion Experimental Station, Lacombe; Mr. F. H. Newcombe, Director of Extension; Miss M. Fraser, Supervisor of Girls' 4-H Clubs; Mr. C. Cheshire, Extension Agricultural Engineer; and Mr. P. D. Hargrave, Superintendent, Horticultural Station, Brooks.

Special Events

January 5th—Lectures resumed.
February 20th—O.S.A. group visited V.S.A.
March 25th—Little Royal and Achievement Day.
April 1st—Graduation.
July 10th—Fortieth Anniversary Reunion.
October 20th—Registration for fall term.
November 27th—O.S.A. Alumni Reunion.
December 19th—Christmas holidays started.

Scholarships

Scholarships provided by various organizations were officially awarded by their representatives at the Christmas program on December 12th. They were as follows:

Imperial Oil—Gordon Carlson, Champion.
O.S.A. Alumni—Robert Winther, Huxley.
O.S.A. Alumni—Christine Jones, Lillooet, B.C.
Alberta Hatching Egg Producers' Ass'n—James Boyd, Bashaw.
U.F.A. Co-op., Robert Gardiner Memorial—Donald Versluys, Champion.
Alberta Women's Institute—Ione Coates, Carbon.
Alberta Seed Growers' Co-op—Lorne Gier, Aldersyde.

Alberta Wheat Pool, Henry Wise Wood Memorial—Wanda Waddy, Alix; Donald B. Mashford, Trochu.

United Grain Growers—R. Delroy Bates, Acme.

Surplus Wheat Board Monies Trust—Pauline Androsoff, Mossleigh; Keith Viney, Olds; Tony Schlacter, Whitla; Clarence Roth, Bow Island; Delmar Haining, Acme; Ernest Stables, Altario.

In addition, one Surplus Wheat Board scholarship to be used at the University of Alberta is available to Victor Valli of Brooks.

Summer Program and Staff Activities

During the summer months when regular classes were not in session staff members were engaged in various duties connected with the school and other Branches of the Department. Mr. Malyon was in charge of grounds; Mr. Belanger in charge of maintenance; Mr. Cooper in charge of plots, engaged part time in 4-H Club work and with summer courses; Mr. Jorgenson prepared publications for 4-H Clubs, assisted with summer courses and was Acting Principal whenever the Principal was absent; Mr. Sutherland revised the science course; Mr. May spent part time on extension work and part time rearranging the farm mechanics shop; H. J. Armstrong was attached to the Field Crops Branch in connection with pest control. Mr. Rogers spent May and June in the Accounts Branch, Edmonton, July on 4-H Club work and the balance of the summer in charge of the Accountant's office at the school.

Miss Kernaleguen was attached to 4-H Clubs; Miss O'Callaghan was busy at the school most of the summer; Miss Moseson was engaged in Women's Extension work when not required for short courses at the school.

Summer Events

Twenty-six meetings, conferences or conventions were held at the school during the summer and autumn. Among these were the Garden Club Leaders' Conference, W. I. Girls' Club Convention, 4-H Club Week, 4-H Club eliminations, annual meeting of the Alberta Institute of Agrolologists, and a district conference of the Home and School Association. Total attendance at the twenty-six meetings was approximately 3,000 people, a fifty per cent increase over 1952.

Grounds, Buildings and Plots

Ample rainfall throughout May, June and July resulted in the finest showing of lawns, shrubs and flowers seen at the school in years. The addition of one large power lawn mower to the grounds equipment also helped to keep grounds in good order.

Many improvements were made in the buildings, including the redecoration of the first and second floor of the boy's dormitory, remodelling and redecorating the interior of the farm mechanics shop to provide a motors laboratory and two additional classrooms, some remodelling of the interiors of home economics laboratories and some redecorating in the Principal's residence and in the two residences in the Town of Olds.

The plots produced potatoes and other vegetables to supply the dormitory and wheat for the poultry flock. The school plots also continue to be the source of foundation stock of the Olds

strain of Creeping Red Fescue. Cereal and forage plots were established through the co-operation of the Dominion Experimental Station at Lacombe. Additional plots were planted to complete classroom requirements.

The Farm

Unfavorable spring weather delayed field operations, making seeding later than in many years. However, favorable weather in July and August resulted in excellent yields of both hay and grain. Hail in July caused 80% damage to crops on the south place but no damage was experienced on the home farm.

Production was as follows: Wheat—125 bus., Oats—8,400 bus., Barley—2,000 bus., Ensilage—120 tons, Hay—100 tons, Green feed—30 tons.

The purchase of a combine and a front end loader saved a great deal of work on the farm.

Conditions were favorable for live stock throughout the year and all animals were maintained in good condition. The Holstein herd is proving more valuable with the installation of a pasteurizer so that milk can be supplied to the dormitory. There was a strong demand for Yorkshire boars and gilts. The breeding program with Large English White hogs has made it necessary to raise about 200 hogs per year in recent years. Ten feeder steers and eight lambs were purchased in September. These are used, along with some Holstein steers raised on the farm, for judging and butchering classes and to supply the dormitory with meat.

A poultry flock of about 200 chickens supplies eggs to the dormitory and provides material for classes.

Staff Changes

On January 1st Mr. E. E. Rogers joined the staff as Dean of Men and Director of Athletics with no formal teaching duties. This was a departure from the usual practice of hiring a teacher and requiring him to carry the duties of Dean in addition to teaching. The change has resulted in better discipline and better atmosphere in the dormitory, as well as a sports program that takes in every student physically able to participate.

At the end of the school term on April 1st resignations from Mr. D. Heimbecker, Miss Elizabeth Saint and Miss Rosemary Shaw were effective. Miss K. B. O'Callaghan, Dietitian, resigned early in August to take a position teaching in the Killam School Division. Mr. George Hughes, who returned to his farm at Vegreville in April, was replaced by Mr. A. E. Cahoon of Cardston; Mr. Heimbecker by Mr. R. M. Gratz of Carstairs; Miss Saint by Mrs. Margaret Head of Olds; Miss Shaw by Miss L. MaRae of Morinville; and Miss O'Callaghan by Miss E. King of Edmonton. Miss King assumed the duties of Dean of Women as well as those of Dietitian. With typing added to the home economics curriculum, Mrs. L. Ortwein of Olds was hired on a part-time basis to teach it.

The 1953-54 Term

The school opened as scheduled on October 20th, with almost as many agriculture students as could be accommodated. While the total registration in home economics showed a decline of three from the previous year, a larger first year class may indicate that the downward trend has been stemmed.

Final Registration—October, 1953

	Home Economics	Agriculture
First Year	21	54
Second Year	8	31
Two-in-One	6	33
Total	35	118

Staff for the Fall Term

J. E. Birdsall, M.Sc., Principal, Farm Management
 M. W. Malyon, B.S.A., Dairying, Poultry, Mathematics.
 R. H. Cooper, M.Sc., Animal Science
 F. C. Jorgenson, English, Mathematics, Community Organization, Economics and Co-operation.
 H. W. Sutherland, B.Sc., Science
 K. E. May, B.Sc., Farm Mechanics.
 H. J. Armstrong, Metal Work.
 C. L. Belanger, Building Construction.
 A. E. Cahoon, B.Sc., Field Husbandry, Entomology.
 R. M. Gratz, B.Sc., Horticulture, Botany.
 M. Joosten, Accountant.
 Helen Moseson, B.H.Ec., Sewing, Clothing, Mathematics.
 Anne Kernalleguen, B.Sc., Home Management, Home Arts.
 Mrs. Margaret Head, B.Sc., Cooking, Nutrition.
 Elizabeth King, B.Sc., Dietitian, Dean of Women.
 Loretta McRae, R.N., Nurse.
 Mrs. Laverne Ortwein, Typing.
 Mrs. Betty Brown, Librarian.

Employment training was taught by four teachers. Mr. Jorgenson supervised and was assisted by Miss Kernalleguen, Miss King and Mrs. Head.

VERMILION SCHOOL OF AGRICULTURE**The 1952-52 Term**

Visitors who inspected this school and addressed students during the term included: Mr. D. A. Andrew, Secretary, Canadian Hereford Association; Dr. J. G. O'Donaghue; Mr. A. J. Charnetski, Mr. J. Kokolsky, Mr. W. G. le Maistre and Miss M. K. Fraser, all of the Department of Agriculture.

Special events of the school term included:

January 10th—Masquerade party.

February 12th—Public Speaking contest.

February 27th and 28th—Visit of 36 staff and students from Olds.

March 7th—Operetta.

March 14th—Open dance and Alumni Reunion.

March 25th—Little Royal and Achievement Day.

April 1st—Closing.

The continued interest and support by the public of all open functions at the school afforded considerable satisfaction to members of the staff. Increasingly large numbers of former students attend Alumni Reunion events. The Little Royal and Achievement Day again attracted well over one thousand persons. Mr. J. L. Kerns, former instructor in animal husbandry, presently District Agriculturist at Ponoka, and Dr. L. W. McElroy, Department of Animal Husbandry, University of Alberta, were the guest judges.

Graduation

At the closing exercises held on April 1st, the principal address was delivered by Dr. Andrew Stewart, President of the University of Alberta. Mr. F. J. Higginson represented the Provincial Department of Agriculture and Miss Doris Jack of Kitscoty was guest soloist.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
Two year course " " " " "	39	15
Two-in-one course " " " " "	17	11
	<u>56</u>	<u>26</u>

Winners of scholarships for distinction in various fields were named as follows:

The Vermilion Board of Trade—Collin Calenso, North Edmonton.

The V.S.A. Alumni Association—Ian Royan, Chauvin; Blanche Ross, Forestburg.

The Alberta Seed Growers Co-operative—Gerald Harle, Vermilion.

Craig Bros., Vermilion—Kenneth Lowe, Pickardville.

Imperial Oil Limited—Clifton Holt, Edmonton.

The Alberta Women's Institutes—Dyann Cramton, Strome.

The Robert Gardiner Memorial—Shirley Hilgardner, Namao.

The Alberta Turkey Breeders' Association—Gerald Patsula, Edmonton.

In addition to the scholarships described above, prizes donated by various business firms and organizations to a value in excess of \$400.00 were awarded to students for distinction in various branches of classroom activity.

Winners of the staff medals were:

Two-in-One Agriculture—Bruce McDonald, Mannville.

Second Year Agriculture—Howard Austin, Ranfurly.

Two-in-One Home Economics—Shirley McCormick, Vermilion.

Second Year Home Economics—Joy Briggs, South Edmonton.

The Summer Program

The series of short courses held in July was the principal feature of the summer program. These were as follows:

June 29th-July 2nd—Anglican Clergymen's Short Course.

July 3rd and 4th—Alumni Reunion.

July 6th-9th—Farm Women's Week.

July 12th-18th—4-H Club Week.

July 20th-25th—Boys' and Girls' Fair Camp.

July 27th-August 1st—Junior Club District Rallies and special Field Days.

The 4-H Club course employed facilities at the school to capacity and Farm Women's Week attracted the largest average attendance in its history. Approximately one hundred ladies were present each day. One hundred and fifty guests were served at the closing banquet addressed by Mr. Stan Ross, Edmonton solicitor.

Numerous organizations continued to centre many of their activities at the School of Agriculture, where its facilities prove exceptionally convenient for meetings, conventions and field days. During the year at least twenty-two events in addition to those already mentioned were held at the school.

Employment of Staff during the Summer

In addition to the responsibilities associated with the summer courses and other events described above, members of the teaching staff engaged in various other activities connected with the school or other Branches of the Department as follows: W. Hughes, Field Crops Branch; E. V. Hamula, Dairy Branch; M. Jackson and A. Randle, Women's Extension Branch. D. C. Folk and Miss G. Sinclair were employed by the Vermilion School Division teaching general shop and home economics respectively to high school students in premises leased to the School Division on the V.S.A. Campus. When the fall term opened in September this arrangement employed four of the instructors, namely, D. C. Folk, J. A. R. Palin, Miss Muriel Ostrom and Mrs. G. B. Perriam.

Supervision of the school farm was given by V. T. Janssen, while the grounds, garden and field crops were supervised by the Principal.

Mr. E. R. McCrimmon and Mr. J. R. Roxburgh were transferred to other work with the Department prior to the close of the spring term. Miss S. Komhyr and Miss M. Davies resigned at the end of the term.

Buildings and Grounds

A normal program of maintenance and repair was conducted throughout the summer months with most of the work being done by the regular maintenance staff. Major projects included installation of a ceiling in the gymnasium, stuccoing of the Q.M.S. building and installation of some 300 feet of concrete curbing along driveways.

The School Farm

In view of a favorable growing season the farm produced good yields of crops which were harvested in excellent condition, as follows:

	Wheat	Oats	Barley	Hay
Acres	9	79	36	82
Yield	326	4,350	2,400	142 tons

Principal addition to the farm equipment was a Massey-Harris seed drill.

Farm sales on the campus and to the dormitory were:

Milk and cream	\$5,574.70
Eggs	1,111.42
Meat	1,710.29
Total farm sales for the year amounted to	\$15,599.40

The appointment of Mr. Angus McMillan as farm foreman made a valuable contribution to the organization of the work on the farm.

The 1953-54 Term

Classes were enrolled on October 20th as follows:

	Agriculture	Home Economics
First year	49	23
Second Year	43	10
Two-in-One	27	7
	<u>119</u>	<u>40</u>

Enrolment in the agricultural classes is highly satisfactory and coincides nicely with the accommodation; but enrolment in the

home economics classes continues to be a cause for considerable concern and leaves unused some of the accommodation available.

The school has enjoyed fine support from numerous business firms and organizations who have donated a very considerable quantity of material and equipment for teaching and demonstration purposes without which our work in farm mechanics and home management would be considerably handicapped.

Staff

N. N. Bentley, Principal, Instructor in Farm Management.
 V. T. Janssen, Instructor in Animal Husbandry, Farm Superintendent.
 J. Marcus, Dean of Men's Residence, Instructor in Poultry and Dairying.
 J. A. R. Palin, Instructor in Farm Mechanics.
 D. C. Folk, Instructor in Farm Buildings.
 K. Stone, Instructor in Field Husbandry.
 W. B. Olson, Instructor in Metalwork, Maintenance Superintendent.
 L. Seath, Instructor in Science.
 John Stelfox, Instructor in Horticulture and Botany.
 W. Baranyk, Instructor in English and Community Organization.
 Miss T. Graham, Dean of Women's Residence, Dietitian.
 Mrs. Emma Acheson, Instructress in Clothing and Sewing.
 Mrs. G. B. Perriam, Instructress in Home Management, Handicrafts and Laundering.
 Miss A. Randle, Instructress in Nutrition and Cooking.
 Miss D. Bohme, Instructress in Home Nursing, School Nurse.
 N. T. Welsh, Accountant.
 Mrs. K. I. Bell, Secretary.
 Miss K. Groskurth, Librarian and Instructress in Typing and Employment Education.

FAIRVIEW SCHOOL OF AGRICULTURE

The school is now in its third year of operation. While there was a slight reduction in total enrolment (82 as compared to 88) this is not interpreted as being significant. When home addresses of students were located on a map of the area served by the school, very even and widespread representation was evident. Five students were in attendance from the British Columbia Block and one from the North West Territories.

Closing Exercises

Graduation exercises were held for the first graduating class on April 1st. An audience of 350 visitors, parents, first year students and staff heard Mr. O. S. Longman, Deputy Minister of Agriculture, deliver the address to the graduates. Mr. Longman also presented the prizes, scholarships and diplomas.

The winners of scholarships for distinction in various phases of school work were named as follows:

W. P. Loggie, Fairview—Allan Tosh, Fort Simpson, N.W.T.;
 Bernadette Cimon, Donnelly, Alberta.

Imperial Oil Company—Egon Lorenscheit, Grimshaw, Alberta.

Alberta Seed Growers'—Ewart Loucks, Two Rivers, B.C.

Alberta Women's Institutes—Gillian Guest, Hinton Trail, Alberta.

Robert Gardiner Memorial—Sam Sather, Wanham, Alberta.

Wheat Board Monies Trust (University)—Wilfred Paul, Bluesky.

Winners of staff pins were:

Alberta Eggenberger, Manning, Alberta.

Gladys Brown, Beaverlodge, Alberta.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
Two-year course	16	6
Two-in-one course	8	Nil
	24	6

In addition to the scholarships, prizes donated by various businessmen and organizations to a value of \$255.00 were awarded to students for outstanding work in the various courses.

Visitors and Special Speakers

Visitors and special speakers at the school included Mr. Donald Cameron, Director of Extension, University of Alberta; Dr. O'Donoghue, Provincial Veterinary Services; Mr. Solon Low, M.P.; Mr. W. F. Gilliland, M.L.A.; Mr. A. W. Beattie, District Agriculturist, Berwyn; Mr. R. M. Ward, Superintendent, Fairview School Division; Rev. Father Schahun, Fairview; Mr. H. Baines, Manager, Royal Bank, Fairview; Mr. D. Andrew, Secretary, Canadian Hereford Breeders Association; Mr. W. H. T. Mead, Provincial Live Stock Commissioner. Several other Department of Agriculture representatives visited the school during the year in the course of their regular duties.

Calendar of School Events

January 24—Literary program.
 January 31—Masquerade.
 February 7—Frontier Night.
 February 14—Sports Night.
 February 21—Play Night.
 March 6-8—High School Bonspiel.
 March 14—Spring Open Dance.
 March 21—Gym Night.
 March 25—Little Royal and Achievement Day.
 April 1—Graduation and Closing Exercises.

There is a continued and widespread interest in the school indicated on the part of the public in this area. All open functions were very well attended. This was particularly noticeable on the occasion of Little Royal and Achievement Day. An estimated seven hundred visitors were present and keen interest in the display of student work and showmanship in the stock ring was evident. Mr. W. C. Gordon, Supervisor, Live Stock Branch, was guest judge. Mr. Gordon is a graduate of the Olds School of Agriculture and was previously on the teaching staff there.

During the year a full program of extra-curricular activities was organized by the Students' Council presided over by Albert Eggenberger, Manning. Staff advisers supervised such diverse activities as hockey, basketball, dances, plays, school paper, student orchestra, curling and sing-songs. A very commendable first Year Book was produced under the direction of Mr. H. F. Irwin, Instructor in English.

Again in 1953 grain honors were brought to the Peace River area by a junior exhibitor at the Royal Winter Fair. Victor Delfs, Woking, a second year student at the school, won the top award in the Junior Feed Barley division.

Summer Program

The summer program included regular short courses as follows:

	Attendance
July 9-11 Community Life	102
July 13-16 Farm Women's Week	47
July 27-31 4-H Club Week	72

In addition, the following groups were accommodated at the school:

		Attendance
July 17	Provincial Seed Growers	70
July 21	M.L.A. Tour	35
July 23	First Alumni Reunion	75
July 31	General Meeting Junior F.U.A.	35
October 15-16	North-Peace Teachers Convention	127

Of special note was the tour of a party of M.L.A.'s under the direction of the late Honourable D. A. Ure. Keen interest in the school was indicated by the visiting members.

Due to inclement weather the attendance at the first Alumni Reunion was limited. It is worthy of note that every member of the first graduating class was present. Their numbers were increased by the attendance of graduates of the Olds and Vermilion residing in the Peace River area, who are eligible to become associate members of the association.

Employment of Staff during the Summer

As in previous years staff members assisted in the work of summer short courses. For the balance of the period between the closing and opening of regular classes they were engaged in work at the school or in other Branches of the Department. H. F. Irwin was again employed by the Field Crops Branch as Weed Supervisor of the Peace River area with headquarters at Fairview. In addition to this work, Mr. Irwin also supervised fertilizer trials and handled special insect control assignments for this Department. C. E. Paquin became an inspector for the Department of Lands and Forests with headquarters at Fairview. Miss O. M. Gerrard in foods and nutrition and Miss E. M. Sanford in sewing spent part of the summer with the Extension Service giving demonstrations and judging at local fairs. V. W. Osbaldeston conducted farm machinery field days in various parts of the Province for the Extension Service. W. R. Knight, maintenance foreman, supervised construction of new buildings for the Department of Public Works in addition to overseeing the regular maintenance work. D. R. Macpherson and G. A. Ogston were engaged in the operation of the school farm as farm manager and farm foreman, respectively. Mr. Macpherson acted as part-time assistant to A. W. Beattie, District Agriculturist at Berwyn, and in this connection made several trips to Fort Vermilion.

J. H. Warne was inspector for the Dairy Branch in the Peace River area. J. T. Lancaster returned to operate his farm at Bluesky. D. A. Russell left the service at the close of the school term to continue his studies in landscape design at Harvard University. J. E. Hawker supervised grounds work during the summer. F. W. P. Bockman replaced Mr. Russel October 1st, 1953 as instructor in horticulture and botany and Dean of the Men's Residence. J. H. Warne acted as Dean during summer short courses. Miss G. M. Graham was employed on Women's Extension work for the summer with headquarters at Calgary. Miss O. M. Gerrard was dietitian for the summer short courses.

Buildings and Grounds

The advantages of having maintenance under the direct supervision of the school Principal continue to be apparent. To the writer, the most important of these is the readiness with which available manpower can be redirected to take care of any require-

ment that may arise. Two janitors are skilled carpenters and as opportunity offers are used in this capacity. One boilerman is an accomplished welder and takes care of welding jobs in connection with maintenance without interfering with his regular duties.

Capital projects included the construction of four additional staff houses. Three were built in the Town of Fairview and the fourth on the school campus. By the end of the year two of the houses were completed and construction of the remaining two was under way. Other projects were completion of a ten-stall garage; extension to maintenance shop; completion of a stock feeding shed; further work on farm workshop and roughing in of machinery storage shed; completion of a root cellar; grading and application of top soil to grounds south of buildings; concrete walk east of dormitory; roughing in of a stage; completion of a farm granary. Such maintenance and repair work as was required to keep the buildings in good shape was performed.

Under the direction of J. E. Hawker, tree and shrub planting on the grounds was completed. Owing to the late date at which the new highway was completed it was not feasible to make shelterbelt plantings. This work will be continued in 1954 with material available at the school. Annual flowers brought in as seedlings made an excellent show on the grounds at the front of the school. These plantings will be extended somewhat in 1954.

The School Farm

Growing conditions were good in 1953 and crop yields were quite good. Forty acres of barley were grown which yielded about thirty bushels per acre or a total of 1,214 bushels. As our carry-over of threshed oats from the previous year was quite high, no oats were grown for grain.

About seventy-five tons of hay and twenty tons of oat green-feed were harvested. About forty acres of fall rye were used for pasture which carried the Aberdeen-Angus herd until the aftermath of the hay fields was available. The only grain purchased was about 167 bushels of wheat for poultry feed. The purchase of some hay was necessary, most of which will be used in 1954.

The Aberdeen-Angus cattle as usual wintered very well and came through the summer in good condition as pasture was adequate. Local demand for breeding stock was poor. Two bulls and two heifers were sold for breeding purposes. In November the herd was reduced to fifteen head of breeding females and six heifer calves. Five cows, five bulls of breeding age and nine bull calves were shipped to the Live Stock Branch at Edmonton to be sold, as the demand for Aberdeen-Angus breeding stock in the Peace River area is very limited.

The dairy herd continues to supply most of the dormitory requirements but production is somewhat disappointing. Two Jersey cows were added to the herd during the summer. One Holstein bull calf was sold locally for breeding but there is little demand for dairy bulls. There continues to be a considerable number of inquiries for dairy heifers but none were available for sale. Male calves have been butchered as veal or beef for dormitory use.

In October two Shorthorn and two Hereford feeder steers were purchased for classroom use and later for slaughter. Ten feeder lambs were also purchased to be used in the same way. During the year twelve Aberdeen-Angus and Holstein steers and calves have been butchered for use in the dormitory kitchen. Six pigs were also used in this way.

The swine herd was put on Advanced Registry test during the summer. Four litters have been sent to the test station but as yet no results are available. There is considerable interest in swine breeding stock in the area. Seven boars and nine gilts were sold and more could have been if they had been available.

The hens obtained in the fall of 1952 continued in production to the fall of 1953. They were then killed and used in the dormitory kitchen. A new flock of approximately 140 laying pullets was obtained in October. The eggs produced are used in the dormitory during the school term and during the summer months are sold through commercial channels. Egg sales for the year were about 1,350 dozen.

Total farm sales for the year amounted to \$8,026.16, almost all live stock and live stock products. Milk and cream sales made up \$1,770.55 of the total.

The 1953-54 Term

The fall term opened on October 21st, delayed from October 20th to coincide with train arrivals in Fairview. Registration was somewhat slower this year owing to delayed harvest in some areas.

Class enrolment was as follows:

	Agriculture	Home Economics	Total
First Year	26	10	36
Second Year	27	5	32
Two-in-One	10	4	14
	<u>63</u>	<u>19</u>	<u>82</u>

All fully eligible applicants were accepted.

There was a marked reduction in applications for the first year course in agriculture. It is the writer's opinion that the high number of the previous year indicated, in part, a backlog of students for the area and that this year's figure may be considered closer to normal. The slight increase in enrolment of girls was gratifying and particularly the establishment of the two-in-one girls' class. Work for this group was combined where feasible with the work of the first or second year girls.

New courses in employment training and typing were offered to the girls for the first time. Typing was given as an option to dairying. All except three second year girls elected to take typing. The fact that the course was given as an alternate to dairying raised timetable problems which worked to the detriment of typing. Both typing and employment training were enthusiastically received. Instruction in typing was given by Miss D. H. Hoel and the main part of the course in employment training by Miss G. M. Graham.

Instruction and administration staff was as follows:

J. E. Hawker, Principal, Instructor in Community Organization and Public Speaking.
 D. R. Macpherson, Farm Manager, Instructor in Animal Husbandry.
 F. W. P. Bockman, Dean of Men, Instructor in Horticulture, Botany and Physical Education.

V. W. Osbaldeston, Instructor in Farm Motors and Farm Machinery.
W. R. Knight, Chief Caretaker and Instructor in Farm Buildings.
C. E. Paquin, Instructor in Science.
H. F. Irwin, Instructor in English, Mathematics and Entomology.
J. T. Lancaster, Instructor in Field Husbandry and Farm Management.
J. H. Warne, Instructor in Dairying and Poultry.
G. A. Ogston, farm foreman and Assistant Instructor in Animal Husbandry.
E. Gabriel, Instructor in Metalwork.
Miss G. M. Graham, Dietitian, Dean of Women, Instructress in Home Management and Employment Training.
Miss E. M. Sanford, Instructress in Sewing, Handicrafts, Textiles and Home Management.
Miss O. M. Gerrard, Instructress in Cooking and Nutrition.
Mrs. L. A. McDougall, School Nurse, Instructress in Home Nursing and Laundry.
P. Shankowski, Accountant.
Miss D. H. Hoel, Secretary and Instructress in Typing.
Mrs. E. M. Roe, Librarian.

Report of Junior Activities and Youth Training

G. S. BLACK, Supervisor, Junior Activities and Youth Training

Margaret K. Fraser, Supervisor, Girls' Club Work

C. L. Usher, Assistant Supervisor, Junior Activities

David Stelfox, Regional Supervisor of 4-H Clubs

General

The past year has again been a very busy one. The increase in membership and in the number of 4-H clubs organized, coupled with the expansion in the scope of activities of many clubs, continues to enlarge the work at club headquarters. Special note should be made of the steps taken to assist club leaders by the holding of both regional and provincial club leaders conferences.

4-H Club Week is now held at the three Schools of Agriculture and continues to be a major event. Four hundred and seventy members were eligible to attend these one week courses in 1953. The program of work, sports and social activities has been revised and extended and was indeed a very successful one. Appreciation must be given to sponsoring organizations, members of the Department of Agriculture and to individuals who assisted in this work.

The Provincial Plot Competition in each of the four grain projects has again created a new high in quality and interest throughout the province. The 4-H grain plots have become shining examples of good field husbandry methods.

Alberta representatives in the National 4-H Club Contests were outstandingly good, three championships returning to this province. Alberta junior grain club exhibitors excelled in the wheat, oat and barley classes and again won the world's wheat championship.

Livestock members had a very successful year. The quality of livestock exhibited was excellent and prices received were in turn satisfactory. The number of dairy clubs remains about the same with keen interest being shown in their local achievement days and at the Provincial Show. Poultry clubs, though few in number, report a successful year and in all cases had excellent achievement days, receiving premiums over the market for their handiwork.

Perhaps the most outstanding event of the year in 4-H work was the winning of the T. Eaton Scholarship award by Bruce McDonald of Manville, a former 4-H club member and now attending the Vermilion School of Agriculture; a representative from each province competed for this award.

ALBERTA'S 4-H CLUBS, 1953

	No. of Clubs	Membership
Beef	115	2,023
Dairy	25	391
Poultry	7	98
Sheep	1	24
Wheat	68	1,236
Oats	33	500
Barley	53	858
Forage	13	149
Clothing	78	1,005
Foods	21	299
Gardening	65	813
Home Decorating	2	23
Etiquette	3	37
Total	484	7,456

Leaders' Courses

Two provincial and eleven regional leaders' courses were held. The garden club leaders assembled at Olds in April prior to the starting of their project. During the first week in July a two day course was held for all other leaders. Both courses were well attended and much good accomplished.

Regional one day leaders' courses were held at Spirit River, Berwyn, Camrose, Wetaskiwin, Red Deer, Stettler, Drumheller, Calgary, Brooks, Medicine Hat and Lethbridge. All were well attended with the exception of Spirit River and Berwyn at which places weather conditions were such that it was impossible to attend.

4-H Club Week

Junior Club Week was held at Vermilion, Olds and Fairview Schools of Agriculture in the second, third and fourth weeks of July, from Monday until Friday of each week. Each 4-H club is entitled to send one member who has won the efficiency award the previous year. Thus 457 members were eligible to attend.

Seventeen scholarships were awarded as follows:

Olds:

Home Economics: Louise Kenworthy, Clive; Pauline Androsoff, Mossleigh.

Grain: Anthony Schlackter, Whitla; Larry Androsoff, Mossleigh.

Live Stock: Keith Viney, Olds; Robert Plank, Bluffton.

Vermilion:

Home Economics: Rose Marie Hood, Gibbons; Lois Yanchuk, Chipman.

Grain: Douglas Thornton, Jarvie; Nick Holowack, Bruderheim.

Live Stock: Allan Bevington, Winterburn; Albert Pluim, R.R. 1, Wetaskiwin.

Fairview:

Home Economics: Audrey Nehring, Hines Creek.

Grain: Rene Roy, Falher; Karl Roessler, Hines Creek.

Live Stock: Earl Foster, Peace River; Adrian Richardson, Fairview.

International Trips

For the seventh consecutive year 4-H club members were again selected to represent Alberta at the 4-H Club Congress at Bozeman, Montana. This is an exchange visit whereby a similar group from the 4-H movement in Montana visit one of the Alberta Club Weeks. This year the Vermilion School of Agriculture was selected. Both the Calgary and Edmonton Exhibition Boards assisted as hosts—a courtesy that was very much appreciated.

The following composed the group which went to Montana; Miss Shirley Gunn, Paradise Valley; Jean Litke, Fawcett; Vic Maxwell, Rocky Mountain House; James Kinniburgh, Airdrie. Mr. Lloyd Rasmusson and Miss L. Shatz of the field staff accompanied them.

Provincial Judging Competitions

Selection of the teams to represent Alberta in the National Contests took place at the Olds School of Agriculture. Alberta's

quota of teams is seven. The contest was the keenest in years and the following were the winners:

Clothing—Helen and Viola Howard, Munson.
Food—Betty Stone and Wanda Waddy, Alix
Garden—Rose Marie Hood and Jacoba Kampjes, Gibbons.
Grain—Daniel Hrabec and Norman Bugge, Ryley.
Beef—Darrel Sutton and Jimmy Brown, Tofield.
Dairy—Keith Viney and Robert Armstrong, Olds.
Poultry—Mildred Scarfe and Geo. Gow, Vermilion.

A scholarship is awarded to the team standing second in each project entitling them to attend Club Week at one of the Schools of Agriculture the following July. The following members are entitled to these awards:

Clothing—Donna Davies and Marjorie Robertson, Durness.
Food—Margaret and Mary Vrbicky, Patricia.
Garden—Evelyn Cole and Dorothy Lindnark, Brownfield.
Grain—Otto Itterman and Waldemar Rimer, Warburg.
Beef—Park Letts and Edwin Kallal, Westlock.
Dairy—Robert Clark and Gail Graham, Carstairs.
Poultry—Kathleen Green and Russel Pearson, Meeting Creek.

At the National Club Contests Alberta won three championships, namely those in Clothing, Food and Beef; stood third in Grain and Poultry and fifth in Dairy.

Camps, Rallies and Short Courses

The above activities continue to expand and are yearly becoming important activities in club work. Among the largest were noted the return visit to Montana, the Handhills camp south of Medicine Hat, visits to the School of Agriculture at Vermilion, "A" and "B" class fair camps at Edmonton, Camrose, Lethbridge, Vegreville and Vermilion; Red Deer fair holding a junior day on the opening day of their fair. Many tours were made to experimental farms, Schools of Agriculture, visits to cities and to nearby lakes.

Radio

4-H club activities occupy a very prominent part in agricultural programs. Special broadcasts are featured at irregular intervals and practically all stations feature junior activities over the air; C.B.X. devoting much time on the noon broadcast each Thursday.

Pins, Crests and Uniforms

Continued expansion is noted in the securing of uniforms, pins and crests by members. Gate signs are taking on an added interest and many 4-H members are advertising the entrance to their farms by the national 4-H gate sign.

4-H Club Film

The 4-H club film was not completed in 1953. It is reasonable to expect that the final work shall have been completed early in 1954. The interest in such a film has not lessened and we expect that it will be used very extensively.

Alberta Club News

A 4-H club magazine is issued three to four times per year. It is a distinct club publication containing club news, results of con-

tests and is well illustrated. Eight thousand copies are now required in order that each member and sponsoring organization have a copy.

BOYS' AND GIRLS' CLUBS—1948-53

	Total of Grain Clubs	Total Members	Total of Live- stock Clubs	Total Members	Home Economics Clubs	Prov. Member ship	Dom. Member ship
1948	101	1,672	116	2,440	110-1,340	5,452	45,333
1949	110	1,903	108	2,373	125-1,660	5,636	50,241
1950	132	2,247	113	1,965	137-1,747	5,959	54,081
1951	151	2,440	118	2,094	150-2,041	6,575	57,816
1952	157	2,304	133	2,213	167-1,577	6,294	58,706
1953	167	2,743	148	2,536	169-2,177	7,456	65,215

ALBERTA 4-H CLUBS (1943 to 1953 inclusive)

Project	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Swine	13	12	7	1	3	2	1	2	2		
Beef	37	42	47	56	73	88	81	83	89	100	115
Dairy	10	11	15	14	18	25	25	26	23	22	25
Poultry	8			2	3	1	1	2	4	10	7
Sheep										1	1
Wheat	23	19	21	34	42	38	50	66	70	61	68
Oats	30	26	19	24	17	22	26	29	40	37	33
Barley	30	26	15	16	26	28	22	20	27	45	53
Potato	3	3	2	8	2		1	1	2	1	
Forage	13	19	14	10	15	13	11	16	12	13	13
Garden	8	11	20	27	30	37	39	47	52	59	65
Clothing	41	44	60	61	52	71	74	72	87	87	78
Foods	2	1	2	3	4	2		16	12	13	21
Home Decoration		11	5	2	4		4	4		8	2
Etiquette									2		3

AGRICULTURAL PROJECTS

Beef Calf Clubs

Continuing to be the most popular type of project, these clubs again had a very successful year. Prices received at club sales were above market in practically all cases; public support was very good.

Beef club achievement days and sales where three to eight clubs combine for sales continue to be outstanding agriculture events in most areas. As many as five hundred people attend such events.

Grateful acknowledgment is made of the assistance rendered by service clubs, members of the live stock branch and private individuals who are contributing in many ways to make this project of real value to the club members.

Dairy Calf Clubs

Despite the lack of glamour occasioned by sale of livestock fitted by the club member, Dairy Calf Clubs continue to report good progress. This type of club is naturally held to areas adapted to dairying and has perhaps about reached its maximum number. Members are being supplied with good quality calves from the Edmonton Milk Sheds as in past years. The South Edmonton Kiwanis have offered a plaque for yearly competition on general efficiency. This trophy was won by the Camrose Calf Club in 1953.

The Provincial Junior Dairy Show was again held at the Red Deer Fair, a splendid turn-out of exhibits and with a large interested crowd of spectators. The championship award for best calf was won by Miss Carol Toane of South Edmonton, and the best yearling award by Kay Richards of Red Deer.

The Alberta Dairymen's Association again assisted in the work of 4-H Dairy Clubs by inviting one member from each club

south of Red Deer to attend their annual convention. A most excellent program was arranged, including lectures, visits to industrial plants, the thirty-fourth annual banquet and judging contests. An award to each club covering a portion of the cost of transporting their livestock to the Provincial Show is also granted by the Dairymen's Association.

Special awards for showmanship are granted to each club by the Holstein-Friesian Association at their local achievement days.

Poultry Clubs

Although comparatively few poultry clubs are in operation, considering the volume of poultry raised within the province, the clubs are of high quality. Members of all clubs exhibited most excellent birds at their achievement days and sales were made well above market prices.

Regardless of the projects which the members are enrolled in, their attendance at meetings, rallies, camps and achievement days does give them the opportunity of learning more about agriculture. As each club comes under the supervision of the District Agriculturist or District Home Economist, further expansion has become a distinct problem.

Crop Clubs

Crop Clubs had a very successful year. Weather conditions were such that extra good yields were obtained across the province. Hail damage was above average but fine weather during the fall permitted the completion of harvesting. Achievement days were well attended and the quality of the thematic displays was higher.

The Provincial Plot Competition is responsible for greatly improved grain plots. The best plot within each District Agriculturist's area competes for the Provincial championship. The following won championship honours this year:

Wheat—Daun. Buyer, Carbon.

Oats—Walter Weist, Evansburg.

Feed Barley—Norris E. Nordin, Enilda.

Malting Barley—Floyd Stromstedt, Berwyn.

Sponsoring organizations presented wrist watches to the winners and the Department of Agriculture a silver tea tray.

Royal Winter Fair

Alberta 4-H members did an excellent job at Toronto once again. The top three awards being won in wheat and barley classes, as well as twenty-one out of twenty-seven entries in the spring wheat class.

For the fourth consecutive year an Alberta 4-H club member has won the coveted honour of being the Wheat King—Ronald Leonhardt of Drumheller duplicating his win of 1952 in winning the wheat championship at this show.

This year Miss Anne Kernalguen and Miss Margaret Jackson assisted Miss Fraser in the girls' section from May until September. In the boys' section, in addition to the assistance of Mr. C. L. Usher, the Department appointed Mr. D. Stelfox as regional club supervisor and he was stationed at Camrose. Their help was of great benefit not only in the various activities but in the preparation of material.

HOME ECONOMICS PROJECTS

The Girls' Club program is providing instruction in home-making to a large number of girls in rural areas of Alberta. There were 169 clubs carrying projects in 1953 with a membership of 2,177.

The interest in this work is being maintained and the standard of work being done by the girls is improving. This year many of the club leaders and assistant leaders are former club members and many are graduates of one of the Schools of Agriculture.

Projects

Twelve projects are now outlined—3 in Clothing, 3 in Food, 3 in Gardening, 2 in Home Decoration and 1 in Etiquette. The Clothing projects are still proving very popular with 78 clubs completing projects. Food projects are slowly gaining in popularity. 21 clubs completed projects this year and indications are for a considerable increase in this number next year. The Home Decoration projects are for more advanced clubs and so are not as widely carried. The Garden projects are sponsored jointly by the Alberta Wheat Pool and this Department. Sixty-five clubs took the Garden project this year.

Besides the instruction available from the project books 472 lectures in Home Economics and club work were given to the club members by the District Home Economists and 46 by the Girls' Club supervisor. One hundred and sixty-two Achievement Days were held with 10,447 people attending.

A great deal of assistance in preparing and carrying out the projects in Food and Home Decorating is given by the specialists in this field, Miss Lewis, and Miss Judson. This is of much value to the club members and is greatly appreciated.

Awards

All garden club plots were judged by the District Home Economists with assistance from the District Agriculturists or Alberta Wheat Pool Field men. The Alberta Wheat Pool awarded 64 prizes for the best garden plots in each club and presented 14 clubs with awards for obtaining the highest standing in each District Home Economists' District. These last were in the form of a book to be added to the club library. A cook book was presented this year.

The T. Eaton Co. awarded prizes to the member of each club carrying a Food, Clothing, or Home Decoration project, who place highest on the basis of club work and project work. These awards are in the form of pinking shears to the Clothing and Home Decorating club and timers to the Food Clubs. Seventy-four awards were made in Clothing and Home Decoration and 21 in Foods.

The Alberta Wheat Pool awarded three scholarships to the value of \$200.00 each this year. These were to students in first and second and third year in Home Economics at the University of Alberta.

The third year scholarship was awarded to:

Miss Betty Brown—NANTON.

The second year scholarship went to:

Miss Arlene Nelson—VETERAN.

and the first year winner was:
Miss Kathleen Gardiner—MILLET.

Other Activities

This year again a Garden Club Leaders' Course was held in April to train the leaders for this work. 47 leaders took advantage of this course. A three-day Sewing course was offered to leaders of clubs carrying clothing projects. Thirty-five leaders attended this. A similar course for leaders of Food projects was held at this time and proved very helpful. 10 attended. The regular Leaders Course was also well attended.

In addition to this 33 leaders meetings were held in the various districts this year. Many of these were held jointly with the leaders of the agriculture projects. This type of meeting has proven very popular and is a great help to the leaders. It results in less time being spent with the individual leaders by the District Home Economists.

The girls who attended National Club Week this year gave their demonstration and talks on club work and their trip to National Club Week thirty times. These were mainly to new audiences to interest them in the work and to assist in the organizing of new clubs.

There has been a great increase in the number of events for club members this year. Twenty-one rallies, 49 tours and 8 short courses and 13 Field days were held. Also a number of club members attended the 4 Fair Camps. Three 4-H camps were held. These were all well attended and are helpful in arousing interest. At all these instruction was given to assist in project work. Five thousand and twenty-two people attended events of this type exclusive of Achievement Days.

This year 147 former club members were given assistance in homemaking, educational and vocational problems.

Aims

The big problem in club work is to obtain, train, and maintain good leaders. This problem is being met in the following ways:

1. Leaders courses on a Provincial regional and district basis. It is hoped that more regional and district courses can be held next year.

2. Camps and short courses where older club members can be given instruction in leadership and project work. Short courses are all well attended. At 4-H club Weeks this year, workshops in various phases of club activities were carried on. In this way some training was given to all Efficiency Winners so they could in time give their club assistance in the work they undertook.

3. Junior Leaders—A system of junior leaders is being carried on with the view to training future leaders. These are members over 16 years of age who have completed at least 3 projects and who have been Efficiency Winners. They are required to carry a club project but also are given credit for doing leadership work with the younger club members in some one field of their work. This year 40 club members enrolled as Junior leaders and helped their club greatly besides gaining valuable experience for themselves.

The aim of Girls' Club Work is to encourage rural girls to adopt up-to-date methods in homemaking, to interest them in improving their standard of work and to encourage them to take part in community activities. Displays at Achievement Days, reports of District Home Economists, results of judging competition and the number of club girls attending Schools of Agriculture and University indicates that to some measure at least these aims are being met.

In addition to this the following work was done by the Girls' Club Supervisor:

	No.	Attendance
Meetings attended	46	2,051
Short Courses and Field days	69	9,422
Conventions and Fairs	16	1,757
Camps	4	
Radio Talks	9	
Letters written	1,915	
Phone calls	877	
Office Interviews	314	
Home visits	69	

Nine thousand and forty-one Project books and leaflets were distributed.

Report of the Provincial Horticultural Station Brooks, Alberta

P. D. HARGRAVE, Superintendent

Establishment of New Station

Early in April the headquarters' offices of the Horticultural Station were moved from old headquarters to the new building. This is located on the farm, acquired as a replacement for land released to sub-division, about one and one half miles east of Brooks.

Since moving, the staff house, lath houses, greenhouses and seedrooms have been completed. The machine shed, from the east Station, was moved to the new headquarters. Two drinking water cisterns were constructed. Main entrance roads were gravelled, and the fill for the main service ditch was built up. Construction has started on a new residence. Water, for other than drinking purposes, is a problem due to the alkalinity of well water and loss by seepage from a dugout reservoir. The grounds adjacent to the building have been partially landscaped and drainage problems overcome.

Utilization of Land

There are 364 acres of irrigable land on the Station properties. This includes 130 acres at the east Station which, because of the tree stocks established there, must be operated for some years. On the new farm three miles of boundary and cross shelter-belts have been planted. Grain and seed crops, including oats, barley, peas and clovers, were grown on 119 acres. Sweet clover, planted in 1952 on 48 acres, was plowed down as a cleaning and green manure crop. Tree stocks occupy 65 acres at the east Station and 54 acres have now been planted to trees on the new location. Vegetable tests, vegetable seed production, potato varietal, and potato fertilizer trials were conducted on 5 acres on the new Station and on 12 acres at the east Station.

Growing Season

Hail on July 3rd and July 18th resulted in a 100% loss of all crops and considerable damage was done to greenhouses and to roofs of buildings. Cuttings, young tree stock, and budded fruit trees suffered severe injury and shelterbelt trees and permanent plantings were defoliated and the bark scarred. Late seeded barley recovered and due to the long season was harvested. Double cut clover recovered and the second cutting of alfalfa yielded well. Poplar cuttings were killed. Willow and lined-out stock did not come back and only some 40% are alive. Severe winter damage is expected amongst the surviving population.

Multiplication of Trees and Shrubs for Distribution

Seed—Ninety percent of the seeds sown were stratified and gave better than average results. Stratified maple and ash seed gave 50% more germination and height of growth when compared with the check rows which were not stratified.

Seeds stored in the new root cellar, not completely finished, were subjected to fluctuating temperatures which resulted in the pre-emergence of some varieties. Controlled temperature units are now in operation, and will overcome difficulties in temperature control.

Total weight of seed planted was 548 pounds. Sixty-five percent of this amount was seeded in the lath house, the remainder in nursery rows. Seedlings dug from the seed frames and transplanted into nursery rows numbered 58,994.

Cuttings—Hardwood cuttings were set out under ideal conditions. The approximate number of each being—poplar 60,000; Laurel leaf willow 70,000; Golden willow 16,000. Two severe hailstorms in July destroyed most of the cuttings with only a small proportion surviving.

Green cuttings of hardwood were badly damaged with the hail and propagation by this method was curtailed.

Budding—the budding season was a week late due to hail damage stocks and bud wood. A percentage of stocks were too badly damaged for budding. Prospects for a good catch are not bright. The budding of plums and hybrids started on August 5th and apples, crabapples, etc on August 17th. Nine thousand stocks were budded.

Shipping—Twenty-three lots of fruit tree scion wood were shipped on April 29th. The number of trees distributed was between nine and ten times the quantity originally estimated as being required. On May 5th shipping began on the 397 orders sent out which totalled 116,879 trees. These included 63,500 plants and 53,175 cuttings of poplar and willow. There were no budded fruit trees supplied owing to rodent damage in 1952.

Some 120,000 trees have been dug and heeled in for the 1954 shipping season. This total is about 50% of the 265,000 trees set as the annual production goal.

Seed Collection—The harvesting of seed for propagating has been a problem for the past three years, especially in the fruit section; native and domestic alike. Late frost in the spring has been the main cause for this condition.

Ash and maple seed gave average yields. It will be some time before the new Station will produce seed. In the meantime it will be necessary to bring in supplies from outside points.

The new headquarters was supplied with a weather house containing maximum and minimum thermometers, a wet and dry bulb hygrometer, a rain gauge, and a sunshine recorder. An automatic temperature recorder was installed on November 23rd. The 1953 winter was mild with good snow cover. Spring was late with April 14th being the coldest day on record for the month. On March 20th, twelve inches of snow fell, followed by heavy rains on May 8th, 9th and 11th causing flooding conditions. The last killing frost of the spring occurred on May 14th. Two heavy hailstorms, on July 3rd and 18th caused severe damage and surviving crops were late in maturing. The first killing frost of the fall occurred on October 5th. This gave a frost free growing period of 144 days. Warm, dry fall months gave excellent harvest conditions. Snow in late December preceded cold weather. The

following table gives the temperatures, precipitation, and sunshine records for the year:

	High Max.	Low Min.	Average Max.	Average Min.	Mean Temp.	Pre- cipitation (Inches)	Hours of Sunshine
January	46	—22	23.30	0	11.60	.15	no records
February	49	— 2	37.50	12.40	24.95	.64	no records
March	47	—14	36.00	13.00	24.50	1.58	no records
April	66	10	42.40	24.80	33.60	1.75	no records
May	85	24	62.00	36.70	49.35	2.16	*227.6
June	82	38	66.80	46.20	56.50	5.94	261.8
July	98	38	76.90	52.42	64.66	1.93	352.8
August	92	34	78.90	50.60	64.75	.90	337.6
September	86	29	67.90	41.30	54.60	1.02	198.0
October	81	15	64.70	31.90	48.30	nil	231.0
November	63	8	49.00	21.80	35.40	0.25	141.8
December	55	—12	36.67	11.58	24.13	.64	97.7
					Total	16.96	

*28 days only.

Tree and Small Fruits

Fruit work is divided into varietal testing and growing of seedlings for fruit selection. The first part deals with tree and small fruits while the latter program is directed towards tree fruits with exception of raspberries.

Varietal testing—The varietal orchards on the new farm now have planted in them 1,287 apple varieties; 22 plum varieties; 7 cherry varieties; 17 apricot and 3 pear varieties. This is supplemented by 549 apple and 284 plum varieties in the old orchards at the east Station. A small fruit testing program was started with 34 varieties of raspberry, 14 of strawberry and 34 of currants planted in replicated rows. Rhubarb is included in the varietal trials with nine varieties on test.

Seedling Orchards

Orchards planted at headquarters, to seedling fruit trees which will be grown to fruiting age for selection, are made up of the following; 5,995 apples; 4,248 plums, 499 apricots; 103 cherries; 25 pears and 54 currants. Working through the co-operative Fruit Breeding Committee 5,772 controlled crosses were obtained and lined out. The majority of the plum stock are of **Prunus salicina** parentage. Due to late frost and hail there was not a fruit harvest and selecting work in stocks of fruiting age was not possible.

Growth Studies

Surviving trees in the growth study project were recorded. The first records were taken on June 18th and terminal growth and bud formation was completed by August 12th.

Root Stocks

The investigation of a block of old **Malus baccata** trees as to hardiness and suitability for stock materials was continued. Air layers removed from the trees in 1952 and used as cuttings did not root. Selected trees grafted on crabapple seedlings have given whips of B4-6-1, B4-7-4, B4-7-9, B4-7-18, B4-7-20, B4-7-21, B4-7-28, B4-7-29, and B 31 B. These will be established in stooling beds.

Perennials

Iris and peony collections are maintained at the Station. A seedling block of peonies has reached blooming age. These

collections and seedlings were established along the roadway at headquarters.

Chrysanthemum strains of hardy, early blooming types have been collected. Seedlings have been grown and selected for hardiness, earliness and bloom. From this work 21 named varieties and 201 seedlings have been moved to the new headquarters.

Vegetables

Vegetable Trials—The 1953 program emphasized the following vegetables: Sweet Corn, Tomatoes, Cucumbers and Field Corn. Vegetables grown in the trial plots numbered 88 sweet corn varieties; 145 tomatoes; 25 field corns and 292 new varieties of other vegetables. The unfavorable weather retarded all vegetables and records taken should be judged accordingly. Information noted during the season was date of seeding, emergence, blooming, plant height and spread, harvest date, yield and maturity rating. Summary sheets of data were prepared. Sweet corn varieties that recovered after the hail are listed below in their order of maturity:

Spancross S	Golden Treasure
Priscilla	Golden Freezer
Early Hybrid 458	Hosier Gold
Golden Rocket (Stokes) P.V.T. No. 7	Golden Batam (Stokes) P.V.T. No. 8
Faribo Big Midget (Stokes) P.V.T. No. 10	Sun Up
Farly Golden Market (Stokes) P.V.T. No. 9	North Star
Sugar Prince (Scott-Bathgate) P.V.T. No. 11	Miniature
Altogold (Bergman) P.V.T. No. 12	Marcross S
Spancross (Stokes) P.V.T. No. 3	Kingscrot Ear Pack
Orchard Baby (G. H. Wills and Co.) P.V.T. No. 4	Seneca Arrow
Dorinny (M.E.S.) P.V.T. No. 5	Seneca Chief
Early Hybrid M. 13 (Stokes) P.V.T. No. 6	Seneca Golden
Early Marcross (Gill Bros.) P.V.T. No. 1	Carmelcross
Early Golden 113 (F.S.N.) P.V.T. No. 2	Lee
Marcross No. 39	Tunnis
Foremost	

None of the tomato varieties reached maturity.

The field corn varieties, grown for checking their suitability for silage purposes, were late. Few of the heavier yielding varieties made ears or had ear development sufficiently advanced for silage purpose. The five varieties that had reached the early to late-milk stage, with their calculated yields, are:

	Maturity	Yields, tons/acres
967 Kingscrot K.S.	Late	15.5
Flent Dent Hyb. K.F.	Late	8.8
Wisconsin 335	Early	9.4
396 L.F.	Early	9.5
Nodak '203, Magill's 813	Late	7.3

There is a need for an early maturing Rutabaga turnip to meet the requirements of the export trade. The variety Laurentian is the popular fall and winter variety. It is late in making harvest size. To check it with other turnips a plot of seven varieties was laid out. Hail which severely injured the crop made an accurate appraisal of varieties impossible. Yields taken on September 30th placed Laurentian in last place and Dreadnaught as the highest yielding. Marketable appearance, score and size characteristics favored Laurentian.

Foundation Vegetables—Seed from ten kinds of vegetables were included in the foundation seed program with 1 each of pumpkin, marrow and corn being ready for submission for verification trials. Stock of Small Sugar Pumpkin met the requirements of the verification trials and was issued Foundation Certificate No.

2209. Satisfactory strains of radish, Sunshine Corn and three tomatoes were increased.

Tomato Breeding—As a result of the original crossing work with tomatoes those producing the most promising families were recombined. Reciprocal crosses were made between five of these. New characters were introduced to the program by crossing each of five new varieties—Hundredfold, Early Suffolk, Badsey Potato Leaf, Cloche Wonder, and Best of Bonne—with the five old varieties. A total of 53 successful crosses resulted.

Cabbage Strains—A hybrid cabbage known as Evergreen is used by market gardeners. Seed of this variety is scarce and available to a limited group of growers. To reproduce the cross, heads of the hybrid cabbage were obtained from growers and selfed lines segregated out. Fifteen of these family lines have been stored for seed production and re-combination.

Marrow—Foundation stock seed of Green Bush Marrow and Long White Trailing Marrow is maintained by the Station. Reciprocal crossing has been carried on to develop a marrow with the bush habit of the green variety but the white fruit of the trailing variety. A strain with the desired white bush characteristic has been selected.

Potatoes

Fertilizer Cultural Trials—The application of fertilizers to land to be planted in potatoes was started in 1942 and with the exception of 1948, 1951, and 1952 has been carried on since. The work was laid out in a rotation of grain, alfalfa, and potatoes. Manure and chemical fertilizers were used singly and in conjunction on land in constant grain crop between potato years and land in alfalfa for at least two years in rotation. The results obtained indicate that an application of one hundred pounds of 11-48 with manure at a rate of 20 tons per acre gave the best results. Application of the manure at the time of plowing down the alfalfa was most beneficial from the standpoint of yields. Doubling the rate of application of chemical fertilizers did not increase the yield proportionately. The treatment which increased potato yields indicated it was also beneficial to the increase of alfalfa.

Seedling Production—Potato varieties, immune to scab, similar in appearance to Netted Gem, earlier and heavier yielding, are needed in Alberta. A variety suitable to the early market with immunity to scab would also be valuable to the industry. With this in mind investigational work towards a breeding and seedling production program was begun in the summer of 1953. The varieties Netted Gem and Epicure were grown under lights for hybridizing. A quantity of seed, obtained from United States Department of Agriculture, through Mr. John G. McLean, Branch Experimental Station, Aberdeen, Idaho, was planted in August and harvested in December. The tubers from 706 individual plants have been harvested and stored separately.

Frozen Foods

The objective of the frozen food work is: (1) to test varietal adaptability of fruits and vegetables, grown in Alberta, to freezing and freezer storage; (2) to examine and classify wrapping

and packing materials; (3) to investigate processing methods and treatments as related to the commercial locker and home freezer.

The 153 varieties processed in 1952 were submitted to a taste panel in January. These were graded as to quality and the most promising were included in the 1953 trials for repeat tests. This trial included 61 vegetables varieties. Hail limited the processing program. Thirty-two varieties of corn, 6 of beets, 2 of turnip, one of kolrabi, 17 of carrots, one of spinach, 5 of broad beans and 12 of green and wax beans were processed for testing in January of 1954.

Tests on peaches and apricots to prevent discoloration during processing and storage by use of brine, ascorbic acid, citric acid, sulphur dioxide and their combinations, were repeated to check preliminary work done the previous year. Results of the 1952 processing indicated speed in handling the product during processing to be of first importance. The use of commercial preparations, citric and ascorbic acid, imparted an "off" flavour. Sulphur dioxide, although giving excellent results, affected flavour and texture.

In addition to these, tests were made on raspberries, cherries, and strawberries. Twenty different varieties of raspberries, grown on the Station, were processed. Lambert cherries were tested to ascertain which was the best freezing method. The variety "Gem" was the only strawberry processed.

Packaging tests were conducted, using polythene, foils, parchments, wax, and kraft papers, as meat wraps, to check their efficiency and practicability. Ground meat, chops, and fowl were wrapped, weighed, and stored for six months, at 5°F. After storage they were weighed and scored. Weight loss was considered the principal factor in appraisal. Consideration was given to ability to withstand handling; package and product appearance; odor; ease of handling, sealing and labelling; and relative cost. Percentage dessication varied from less than 1% to 28.3%. The work was repeated in 1953 to verify the results.

Progress reports have been prepared on the fruit and meat sections.

Other Activities

Staff members assisted at 37 meetings of organized groups, 5 short courses and 3 horticultural shows at which two members attended to act as judges.

The kitchen and large office greatly facilitated the gathering of four large groups, at each of which a tour of the building was made. These groups were—the Calgary Garden Club, the Girls' Club Rally, the F.U.A. Leaders' Short Course, and the Anglican Men's Club. It is expected that the number of groups, such as these, using the Station will greatly increase in time to come.

Landscape and planting plans were prepared for fifteen locations.

Report of the Radio and Information Branch

E. R. McCRIMMON, Supervisor

E. B. Swindlehurst, Research Information Editor

S. B. Wilton, Commentator-Writer

Miss M. Sears, Secretary-Writer

GENERAL

The activities of this branch commenced on April 1, 1953. Personnel were appointed in March, April and May. The Branch was organized to present information to the rural people of Alberta through the medium of radio and the press.

DAILY RADIO PRODUCTION

The Branch produces a 10 minute daily (Monday through Friday) farm radio program, "The Call of the Land."

This program is carried over 6 radio stations in Alberta at the times indicated:—

CHAT, Medicine Hat	1:05 p.m.	CFCN, Calgary	1:15 p.m.
CKRD, Red Deer	12:45 p.m.	CFRN, Edmonton	12:05 p.m.
CKUA, Edmonton	12:35 p.m.	CFGP, Grande Prairie	12:00 p.m.

Time for the program has been purchased from the radio stations with the exception of CKUA which is non-commercial.

The Branch maintains two types of recording equipment. One recorder is located in the Terrace Building offices where a room has been acoustically treated so as to be suitable for recording. The other recorder is a battery operated portable which is used by the staff for field recordings or for other material gathered at Experimental Farms, short courses, field days, etc.

After interviews have been made on branch equipment the full program is recorded at CKUA. Six copies are made of each program so that each station carries the same program on the same day. Spare programs are held at each station to be used in any emergency. CKUA handles the shipping of recordings.

Program Material

Every effort is made to provide accurate and useful information for rural Albertans. Information is gathered from numerous sources. Material carried on the program from April 1 to December 31 is listed below.

Nature of Material	No. of Programs
Field Crops (including Horticulture, Soil Conservation, Pest Control, etc.)	53
Livestock	25
Farm Mechanics	8
Dairy	9
Poultry	6
Beekeeping	4
Fur Farming	3
Schools of Agriculture and Home Economics	5
Junior Activities	19
Miscellaneous	48
Total	180

In addition to these programs several programs consisted of short announcements and short new items. Many programs were of a specific nature such as: Control of Rusty Grain Beetle, Farm Safety, Dehorning Cattle, Farmstead Planning and Planting, Mental Health (during Mental Health Week), Provisions of the Disabled Person's Pensions Act.

When planning programs the building of a large farm audience has been kept in mind. As a result summer fairs at Edmonton, Calgary, Medicine Hat and Grande Prairie were covered and reports given on the agricultural highlights. Some of these were carried on the local station only, since material was of local interest.

Special programs were carried on special holidays including Good Friday, Coronation Day, Thanksgiving, Remembrance Day, Christmas and New Year's.

Interviews

Interviews were carried on the majority of programs. Many of these were recorded with farm people with members of the Department staff included on the same program to round out the Provincial picture. Persons contributing to interviews include the following:—

Source of Interview	No. of Appearances
Alberta Department of Agriculture	73
Canada Department of Agriculture	10
University of Alberta	21
Farm People (including Juniors)	65
Other Departments of Alberta Government	10
Others	17
Total	196

The total number is high due to the fact that more than one person was often interviewed on the same program.

Listener Response

While it is still relatively soon to obtain a good indication of listener response there are definite indications that the program is being well received. Following one program twelve letters were received by the person interviewed requesting further information. Letters have been received commenting favorably on the program. In areas where the program is carried close to the hour of 12:30 p.m. there appears to be a very good following. Where time could not be obtained during that period, but following 1 p.m. listener response is not as great. Efforts have been made to obtain more suitable time on two stations but to date an earlier time has not been available.

The co-operation of those contacted to appear on the radio program has been excellent. Farmers have seemed very willing to assist and some excellent recordings have been made with farmers. In addition every assistance has been given by members of the Canada Department of Agriculture, the University of Alberta and other Departments of the Alberta Government to present a more interesting and informative type of program.

WEEKLY PUBLICATIONS**Research Information**

Since appointment of the Research Information Editor in June of this year periodic calls have been made at the University of Alberta, the Science Service Laboratories at Lethbridge, and the Experimental Stations at Lethbridge and Lacombe. The Experimental Stations at Manyberries and Beaverlodge were also visited.

The publication, "Science and the Land", has been released weekly to press, radio, staff and others, with a view to interpreting the objectives and findings of research into the language and needs of the man on the land. Notwithstanding the short time during which this service has been in operation interest has been keen and the response encouraging.

During the past seven months 42 items were prepared; 38 for general distribution and 4 for staff information. The variety of topics discussed included soil conservation, horticultural practice, livestock, range management, weed control, insect pests, cereal and forage production, legume pollination, and fertilizer use.

Excellent co-operation has been received and appreciated. At all institutions visited, the research men have freely discussed their work with the research information editor and have placed at his disposal any material requested.

Farm Notes

This publication is distributed weekly to press, radio, staff members, commercial companies, libraries and others. Short items of general interest on Agriculture and Home Economics subjects are obtained from various branches within the Department. The Extension Branch handled the editing from January 1 to May 15 when editing was taken over by this branch.

During the year 248 items were prepared. Editing was in the charge of the Secretary-Writer with assistance from the Commentator-Writer.

A frequent check is made through the Provincial Library facilities to determine use being made of the releases. In many cases daily and weekly papers are using numerous items. Some weekly papers use releases only occasionally while a few papers do not avail themselves of the opportunity of providing the community with the informative items.

Report of the Board of Trustees of the Surplus Wheat Board Received by The Government of the Province of Alberta from 1916-1919 Canadian Wheat Board

HONOURABLE D. A. URE (deceased), Chairman
O. S. Longman, Deputy Minister, Department of Agriculture
H. W. Gaebel, Secretary, Department of Agriculture
Richard Ballhorn, Farmer, Wetaskiwin
Arthur Pierson, Vice-President and Treasurer of the Independent
Grain Company, Calgary

Receipts for the year totalled \$3,103.00 all of which was in payment of interest on investments.

Payments for the year ending December 31st, 1953 amounted to \$1,106.24 and were made up as follows:

Scholarships awarded	\$1,075.00
Board Expenses	\$ 31.24

A statement showing receipts and expenditures is attached, also a statement of assets and liabilities.

Investments

There were no changes in the investments made by the Board for the year ending December 31, 1953.

Investments as shown on the attached balance sheet consist of:

(1) Province of New Brunswick	3½%	Debentures	\$45,000.00
(2) Province of British Columbia	3 %	Debentures	45,000.00
(3) City of Calgary	3½%	Debentures	4,000.00
			\$94,000.00

Meetings

A meeting of the members of the Board was held on June 29th, 1953 and scholarships totalling \$2,475.00 were made available as per the approved list which was in effect during the year 1952.

General

Scholarships totalling 298 in number and valued at \$24,441.56 have been awarded and paid since the Board instituted the policy of providing scholarships.

The Board has continued the policy of conserving the principal remaining in the Trust Fund, making all expenditures from the income received from investments.

LIST OF SCHOLARSHIP WINNERS NAMED DURING 1953

Junior Club Winners

Tony Schlacter, Whitla	Pauline Androsoff, Mossleigh
Larry Androsoff, Mossleigh	Rose Marie Hood, Gibbons
Douglas Thornton, Jarvie	Lois Yanchuk, Chipman
Nick Holowack, Bruderheim	Rene Roy, Falher
Keith Viney, Olds	Karl Roessler, Hines Creek
Robert Plank, Bluffton	Earl Foster, Peace River
Allan Bevington, Winterburn	Adrian Richardson, Fairview
Albert Pluim, Wetaskiwin	Audrey Nehring, Hines Creek
Louise Kenworthy, Clive	

University of Alberta Young People's Week Winners

Rudolph Hauch, Freedom	Marilyn Russell, Ponoka
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Women's Institute Girls' Club Winner

Joyce Sherwood, Vermilion

To University of Alberta from Agricultural Schools Winners

Victor Valli, Brooks

Jack Dubasz, Irma

Winners of Open Scholarships for any young person to attend a School of Agriculture

Bernice Ralston, St. Lina

Clarence J. Roth, Bow Island

Calvin E. Ross, Forestburg

Delmar Haining, Acme

W. D. MacDonald, Olds

Marie Bernadette Cimon, Donnelly

Ernest Stables, Altario

**Schedule of Scholarships approved at the Meeting of the Board
Held on Tuesday, June 29th, 1953**

From Clubs to School of Agriculture at each Club Week		
2 crops, 2 livestock, 2 home economics	18 @ \$ 75.00	\$1,350.00
From School to University at each School		
1 in Agriculture or Home Economics	3 @ \$100.00	\$ 300.00
To any young person attending School of Agriculture		
	8 @ \$ 75.00	\$ 600.00
To School of Agriculture from Young People's Farm		
Week at University. 1 boy and 1 girl	2 @ \$ 75.00	\$ 150.00
To School of Agriculture from Women's Institute		
Girl's Club Week at Olds	1 @ \$ 75.00	\$ 75.00
		\$2,475.00

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TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Balance Sheet as at December 31, 1953

ASSETS			
Investments:		Par Value	Book Value
Province of New Brunswick 3½% due April 1, 1967		\$45,000.00	\$44,821.34
Province of British Columbia 3% due December 15, 1969		45,000.00	44,630.78
City of Calgary 3½% due July 1, 1968		4,000.00	3,992.08
			<u>\$93,444.20</u>
Cash in Bank	\$6,261.03		
Less: Outstanding Cheques	160.00		
			6,101.03
Accrued Interest			528.52
			<u>\$100,073.75</u>
LIABILITIES			
Trust Fund December 31, 1952			\$ 98,038.78
Add: Surplus for year 1953			2,034.97
			<u>\$100,073.75</u>

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND

Statement of Receipts and Payments for the year ended December 31, 1953

Bank Balance December 31, 1952		\$4,104.27
Interest on \$45,000 Prov. of N.B. Debentures	\$1,575.00	
Interest on \$45,000 Prov. of B.C. Debentures	1,350.00	
Interest on \$4,000	140.00	
Interest on Bank Balances	38.00	
		<u>3,103.00</u>
		\$7,207.27
Deduct: Payments:		
University of Alberta Scholarships	\$ 100.00	
Olds School and Farm	450.00	
Vermilion School and Farm	450.00	
Fairview School and Farm	75.00	
Richard Ballhorn—meeting expense	10.00	
Arthur Pierson	20.00	
Alberta Government Telephones	1.24	
		<u>1,106.24</u>
Balance December 31, 1953		<u>\$6,101.03</u>

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Accrued Interest as at December 31, 1953

Province of New Brunswick Debentures:		
\$45,000.00, 3½%, April 1, 1967, 3 months		\$393.75
Province of British Columbia Debentures:		
\$45,000.00, 3%, December 15, 1969, ½ month		56.25
City of Calgary Debentures:		
\$4,000.00, 3½%, July 1, 1968, 6 months		70.00
Bank Balance: \$6,261.03		3.99
		<u>\$523.99</u>
Add: Accum. of Discount:		
Accrued on Prov. of N.B. debentures		3.31
Accrued on Prov. of B.C. debentures		.96
Accrued on City of Calgary debentures		.26
Net Earnings accrued to December 31, 1953		<u>\$528.52</u>

Date Due

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